

**AAPG International Conference  
Barcelona, Spain  
September 21-24, 2003**

Per Digranes<sup>1</sup>, Lars Kristian Strønen<sup>1</sup> (1) Statoil, 5020 Bergen, Norway

**Time Lapse Seismic at Gullfaks - Adding Value for The Asset**

The Gullfaks reservoirs are represented by sandstones of middle and early Jurassic age, with overall excellent reservoir quality. Peak production was reached in 1994, and today approximately 90% of the base reserves are produced. The structural setting of the field is complex, and represents one of the main factors of uncertainty concerning the drainage of the field. Locating the remaining oil is an important part of our IOR program, and time lapse seismic represent a key element in this process. Four generations of surface seismic data have been acquired over the field (1985, 1995, 1996 and 1999), and so far the time lapse data have triggered several successful drilling projects.

A significant limitation when acquiring new surface seismic data is the permanent field installations (three platforms and two loading buoys). The summer of 2001 an Ocean Bottom Seismic (OBS) pilot survey was acquired to cover the area around one of the platforms. The OBS data have been compared to the surface seismic base line survey, and have provided important new time lapse information in the area around the platform. Based on the successful results so far two new 4D surveys will be acquired over the Gullfaks field in 2003; one surface seismic survey and one OBS survey.

Examples will be shown to illustrate the impact of time lapse seismic on the reservoir management of the Gullfaks field, and future plans will be discussed.