Types of Stratigraphic Trap

- **Depositional**
  - Channels
  - Bars
  - Pinch outs
  - Reefs

- **Unconformity Traps**
  - Above unconf.
    - Onlap
    - Valley Fill
    - Channels

- **Diagenetic traps**
  - Permeability barriers

**Stratigraphic Oil Traps**

- D Sandstone lenses
- E Sandstone pinchout
- F Unconformity
- G Reef (a small “patch” reef)

**Fluvial Environments (Rivers)**

- Braided Stream
- Meandering Stream

**Onlaps**

**Meandering Stream**

- Channel gravel
- Fluvial plain
- Pine
- Mud
- Point bar
- Coarse
- Older sediments

CHANNEL MIGRATION
Sandstone and Mudstone

3D seismic slice - Fluvial meander at ~2.3 seconds in the West Natuna Basin, Indonesia. ConocoPhillips, Indonesia

Monterey Canyon

Stratigraphic Traps in North Sea

- Deep water slope
- Continued regional subsidence
- Interbedded shale and sandstone
- Submarine fan and turbidite deposits

Tertiary

Rogaland Group Structure Map

Salt Diapir

- One exploratory well proposed
- Targeting the structural high with faults creating a trap

Well 2
Rogaland Group Turbidites
3D Seismic Coherency

Barrier Island-Lagoon System
Salt marsh
Tidal flat
Tidal delta
Floodplain
Barrier beach
Marsh peat
PROGRADATION
Sea level

Coral Reef Carbonates

Atol Reefs
Diagenetic Traps - Permeability Barriers

- Porosity/permeability loss by cementation (A)
- Porosity/permeability enhancement by dolomitization (B)

Hydrodynamic Traps

- Gas
- Oil

Figure 13.9: Secondary diagenetic stratigraphic traps. (A) Traps created by postdepositional uplift and porosity reduction. (B) Traps created by post depositional porosity and permeability enhancement.

Figure 13.1: Key elements for (A) structural and (B) stratigraphic hydrocarbon traps.