**EAS 375**

**Spring 2011**

**Lecture Questions – Exploration (onshore and offshore)**

1. What is meant by the term wildcat well?

A well drilled outside of the vicinity of known oil or gas fields. / Building a well in a region where no oil was found.

1. What is an oil seep?

Place where liquid (or gaseous hydrocarbons) escape to the surface through fractures and fissures in the rock and between geological layers.

1. What is the difference between a structural and stratigraphic trap? What feature do they have in common?

Structural are formed by a deformation in the rock that contains hydrocarbons. Stratigraphic: oil is trapped in reservoir rocks between two impermeable layers of rocks.

1. What was Drake’s contribution to the history of the oil industry?

Popularly credited with being the first to drill for oil in the US.

1. Subsurface exploration is based on seismic surveys. Describe how seismic profiling works.

Uses the reflection of sound waves (reflection produces a wavelet). Uses geophone.

Can use an air-gun on a boat and send data to analyze.

1. Why is the Gulf of Mexico such a prolific oil producing region?

Unusual terrain formation: bumpy surface. Salt dome underneath.

1. How is a salt dome formed?

When a thick bed of salt found at depth intrudes vertically into surrounding rock strata.

1. What is a jack-up drilling rig?

Type of mobile platform that is able to stand still on the sea floor, resting on a number of supporting legs. 3 legs usually.

1. Why is 3-d seismic profiling so important to exploration in the Gulf of Mexico?

Because the Gulf Of Mexico represents a large quantity of the oil produced in the US.

1. What are some of the hazards that offshore drilling and production platforms have to deal with day-in and day-out?

Hurricanes, accidents, sabotage, equipment defects and malfunction, lightning strikes, war risk, terrorism…

1. Why does the damaging of onshore refiners by a hurricanes central to gasoline price spikes?

Because it uses a lot of pipes.

1. What is a fault trap and how does it differ from an anticline al trap?

A fault trap ceils the oil and traps the oil. An anticline is a rock that was flat but is now an arch. Fault traps are formed by movement of oils along a fault line.