**EAS 375**

**Spring 2012**

**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.

**2. 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.

**3. What is the difference between a structural and stratigraphic trap? What features 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.

**4. 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.

**5. 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.

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

Unusual terrain formation: bumpy surface. Salt dome underneath.

**7. How is a salt dome formed?**

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

**8. 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.

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

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

**10. 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…

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

Because it uses a lot of pipes.

**12. What is a fault trap and how does it differ from an anticlinal 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.