EAS 375

Spring 2012

Lecture Questions 06 – Leasing and Drilling

**1. What is the difference between surface and mineral rights?**

Surface is the land, the mineral rights are what is found in the ground (on or below the land).

**2. What are the basic types of international leases?**

Concession contracts, production-sharing agreement, service contracts.

**3. What is the “rule of capture”?**

Laws give title to oil and gas to whoever drills a well and produces it (can come from adjacent property).

**4. What is the blowout preventer?**

Large specialized valve to seal, control and monitor oil and gas wells. Copes with extreme pressures.

**5. What is the importance of drilling mud when drilling a oil well?**

Keeps drilling bit cool, removes drill cuttings, prevents gas blowouts.

**6. What is horizontal drilling?**

(Slant drilling) The electric drilling motor can drill horizontally while in the ground.

**7. What are the benefits of horizontal drilling?**

Faster, cheaper, higher precision, larger horizontal range (compared to several wells).

**11. Whys reservoir so important to producing oil?**

Can tell quantity of oil and if they can make a profit.

**12. Briefly describe or sketch the production of oil from a reservoir?**

**8. Discuss the three major ways crude oil is transported to a refinery and the advantages and disadvantages of each.**

All except pipeline have to go back, to return to destination (sort of). (back haul).

- Trucking: expensive.

- Rail

- Pipeline: Most efficient. Leakage, construction problem, Maintenance.

- Water carriers

**9. Why is distillation considered to be foundation of refining crude oil into the petroleum products?**

Because the components of crude oil have different boiling temperatures. Helps separate a mixture of substance.

**10. What is meant by “cracking” in the refining process?**

Splitting large hydrocarbon molecules into lighter/smaller molecules by heat.

Cat cracking: convert heavier fuels oil to gasoline.

**11. Why do we have more volume of products using the cracking process than we started with?**

Refinery gain: More volume because large molecules have been broken.

**12. Why are reservoirs important to producing oil?**

Pump stations along the pipeline route.

**13. Briefly describe or sketch the production of oil from a reservoir?**

It was created because of the disruption from Arabs country of OPEC which led to high prices. Goal is to make US more independent to supply disruptions.

**14. Why is meant by refinery gain?**

Increase in volume that occurs heavy molecules in crude oil are broken up into lighter molecules.

**16. What is the Strategic Petroleum Reserve (SPR) and what is its purpose?**

It was created because of the disruption from Arabs country of OPEC which led to high prices. Goal is to make US more independent to supply disruptions.

**16. Why would a politician be tempted to release oil or heating oil from the SPR?**

To reduce prices, to please voters/constituents.

**8. What is a reserve. Your answer should include the difference between recoverable and unrecoverable oil and what percentage of oil is typically produced from an oil field.**

**9. Why did oil companies conspire to control the production of oil during the early years of the oil industry? Your answer should include profit motive, and the role production played in their thinking.**

**10. Define “proven reserves.”**

**11. How are refined products transmitted in a pipeline?**