Geol 203 - *Oil Century* Extra-Credit Take-Home Quiz

Go to the National Public Radio (www.npr.org) site and listen to the three 12-minute segments recalling *The Oil Century* (http://www.npr.org/programs/atc/features/2001/mar/010307.spindletop.html) that aired on KUNR 88.7 FM during the *All Things Considered* show March 7-9, 2001. (There is also a 5-minute summary that aired on *Morning Edition* .) The links below point directly to the three Real Audio archives of the segments. You should have installed the free Real Player on your computer to listen to them.

I. Spindletop - The Boom Heard 'Round the World (http://www.npr.org/ramfiles/atc/20010307.atc.06.ram)
II. The Environmental Hangover (http://www.npr.org/ramfiles/atc/20010308.atc.07.ram)
III. Reinventing the Oil and Gas Industry (http://www.npr.org/ramfiles/atc/20010309.atc.07.ram)

When you have listened to the three segments, answer the following questions. Unless specified otherwise, circle the one correct answer to each question:

1. The Spindletop discovery is historically important because:

a. New oil lamps allowed school children to study after dark
b. It allowed the development of industrial mass production
c. It suddenly made the United States a global energy power
d. Existing US oil fields had been depleted and it brought the industry back to life

2. The first commercially successful oil wells were located in:

a. The Texas Gulf Coast
b. Western Pennsylvania
c. La Brea, California
d. Birmingham, England
e. Dubai, Persian Gulf

3. The Spindletop discovery was located in:

a. The Texas Gulf Coast
b. Western Pennsylvania
c. La Brea, California
d. Birmingham, England
e. Dubai, Persian Gulf

4. The Spindletop well was drilled into 700 feet of:

a. Limestone karst
b. Fractured granite
c. Coal beds
d. Sands and gravels
e. Massive salt

5. The Spindletop reservoir was under:

a. Artesian water
b. Soft shale
c. A hard caprock
d. Volcanic lava

6. An oil gusher could be plugged with sand because:

a. Sand is denser than water
b. Sand is gritty and rough
c. Sand absorbs oil
d. Wet sand and oil don't mix
e. Sand is sticky and plastic

7. The Spindletop well at its peak produced about how much oil:

a. 75 barrels/day
b. 7500 barrels/day
c. 75,000 barrels/day
d. 7.5 million barrels/day

8. Early Spindletop oil was owned by:

a. The owner of the property above
b. The owner of the mineral rights
c. The State of Texas
d. The US Government
e. Whoever pumped it first

9. The US oil boom is over because:

a. The early wells have petered out
b. Oil consumption has declined
c. The price of oil has kept falling
d. There is more nuclear than oil power

10. A byproduct of oil production is:

a. Nitrates
b. Fly ash
c. Salt water
d. Fresh water
e. Argon gas

11. A typical environmental problem with an oil development such as the Spindletop field is:

a. Acid rain
b. Depletion of groundwater
c. Contaminated groundwater
d. Landslides

12. Old, poorly producing oil wells are kept in production because:

a. Of the high cost of plugging a well
b. The US must maintain energy independence
c. Local ranchers want to use the oil
d. Of government subsidies
e. There are no environmental regulations

13. Waste brine is now disposed of:

a. In lagoon storage
b. By trucking it to a landfill
c. By deep injection
d. With evaporation
e. At tank farms

14. The principal environmental regulator for the old Spindletop field is now:

a. The Texas Railroad Commission
b. The Texas Petroleum Commission
c. The Texas Department of Water Resources
d. The US Environmental Protection Agency
e. The Occupational Safety and Health Agency

15. The Hoover-Diana project will tap oil and gas equivalent to:

a. 10 million barrels
b. 40 million barrels
c. 10 billion barrels
d. 40 billion barrels

16. A deep wildcat oil well at Spindletop now costs at least:

a. $100 thousand
b. $1 million
c. $10 million
d. $100 million

17. Veritas is now collecting 3-d seismic data over Spindletop with (circle all that apply):

a. Explosives in 100-ft holes
b. Towed air gun arrays
c. Hydraulic thumper trucks
d. Enhanced weight-drop trucks

18. At the time of the Spindletop discovery the success rate for wildcat well drilling was:

a. 1%
b. 3%
c. 25%
d. 90%

19. The current success rate for wildcat well drilling, with the contributions from 3-d seismic imaging technology, is:

a. 1%
b. 3%
c. 25%
d. 90%

20. The 3rd segment mentions as alternative energy sources (circle all that apply):

a. Oil shale formations
b. Coal-bed methane
c. Frozen seabed methane
d. Tar sand stripmines
e. Hydrogen fuel cells