

## Overview of the Petroleum Industry - Test # 2

Please turn test in on Thursday, February 22 at the end of class

Name \_\_\_\_\_

Textbook – The Oil and Gas Industry, A Nontechnical Guide

***Please write your answers on this page. Circle true or false***

Please read Chap 3 (Natural Gas) and 4 (Searching for O&G) sections described below

1. True or False. The primary component of natural gas is methane, known as CO<sub>2</sub>. Pg. 29
2. True or False. Other components in natural gas are ethane, propane and butane. Pg. 29
3. True or False. Natural gas is heavier than air and collects in low spots like cellars and low terrain. Pg. 30
4. True or False. Propane and gasoline vapors are heavier than air. Pg. 30
5. True or False. You can use your cell phone and smoke cigarettes while you are filling up your car gas tank as gas stations remove all vapors from gasoline
6. True or False. Conventional gas is in sandstones and carbonates. Pg. 31
7. True or False. Some of the unconventional gas types are deep gas, tight gas, shale gas and methane hydrates. Pg. 32
8. True or False. Shales are not permeable, but hydraulic fracturing creates fissures that increase the porosity and permeability. Pg. 33
9. True or False. A hydrate is a cold, slush-like methane and water mixture, that acts like ice. Pg. 35
10. True or False. China has the most shale gas recoverable reserves
11. True or False. Qatar and Saudi Arabia have the most natural gas reserves. Pg. 39, Table 3-3
12. True or False. Anadarko has the most natural gas reserves and gas production rate. Pg. 40
13. True or False. In the future, the Middle East, Africa and Russia will be the countries with the biggest increase in gas production. Pg. 42, Projected Trends section
14. True or False. In figure 3-9, the residential use of natural gas is the biggest sector. Pg. 45
15. True or False. The two main license agreements are production sharing & service. Pg. 50
16. True or False. In production sharing, the company uses oil sales revenues to recover its capital investments. Pg. 50
17. True or False. In fig 4-1, oil migrates from the trap downwards to the source rock. Pg. 51
18. True or False. Seismic exploration involves sending sound waves down to find oil and gas traps. Sound reflected back to the surface is recorded. Pg. 53.
19. Draw figure 4-4 below for land seismic and label. Pg. 54

20. Draw figure 4-6 below for offshore seismic and label. Pg. 55
21. True or False a “wildcat” is an exploration well. Pg. 57
22. True or False. In table 4-1, exploration wells have a 20% success rate and development wells are 98% successful. Pg. 59
23. True or False. Well logging involves running equipment in a well to obtain information about rock and fluid properties. Pg. 60. Table 3-2, Pg. 37
24. True or False. Rotary coring cuts an actual core of rock and recovers it to the surface in a core barrel. Pg. 61
25. True or False. Table 4-2 lists wireline tool types to obtain various information on formation rock properties and the type of fluid in the rock. Pg. 63
26. Describe global supply and demand of oil and how it affects oil price
27. Describe 5 different ways that countries make electricity for their countries.
28. Which is less pollution? Burning coal or burning natural gas?
29. How does burning coal, oil and gas to make electricity affect our earth’s environment?
30. What are the top 5 countries that make the most oil production. Information is in the Student Guide handed out in class Feb 15

Each question is 3.5 points