

Overview of the Petroleum Industry - Test # 1

Please turn test in on Saturday, Oct 1 at the end of class

Name _____

Textbook – The Oil and Gas Industry, A Nontechnical Guide

Please write your answers on this page

Please read Chap 1 (Origins of O&G) and 2 (Oil Overview) sections described below

1. True or False. For O&G to form, there must be a basin, then organic material must be deposited, then pressure and temperature are required to create oil and gas, pg. 1
2. True or False. Oil and gas migrate out of a source rock. Pg. 1
3. True or False. Oil and gas move upwards through porous and permeable rock. Pg. 1
4. True or False. Oil and gas stop migrating when they reach a trap. Pg. 2
5. True or False. Black shale is the most common source rock. Pg. 3
6. True or False. Reservoir rocks are originally filled with salt water. When oil and gas migrate upwards, they push the water lower
7. Draw a schematic showing source rock, oil and gas migration to a reservoir rock and in place under a trap. Fig 1-1, pg. 4

8. True or False. A trap has high porosity and permeability. Pg. 5, 6
9. True or False. Porosity is the pore space in rocks that can hold oil, gas or water. Pg. 6
10. True or False. Permeability is the ability of oil, gas, water to flow through rocks. Pg. 6
11. Draw a sealing fault, anticline trap and salt dome trap. Show gas, oil and water. Pg. 6,7

12. True or False. Faults are shifts in the earth's crust. Pg. 7
13. True or False. Methane is CO₂, a combination of carbon and oxygen. Pg. 9

14. True or False. All crudes on earth are similar color, viscosity (thickness) and chemical composition, pg. 9
15. True or False. API Gravity is way of measuring gas density
16. True or False. Sweet crude contains substantial sulfur. Sour crude contains minor amounts of sulfur. Pg. 10
17. True or False. West Texas Intermediate is a benchmark for oil prices. Pg. 10
18. True or False. Crude oil prices rise and fall based on supply and demand. Pg. 12
19. True or False. Tar sands and shale are two types of unconventional oil. Pg. 13
20. Describe the three reserve categories. Pg. 15

21. True or False. OIP is oil in place
22. True or False. The average recovery factor for oil is 30% of OIP. Pg. 15
23. True or False. A barrel of oil is 55 gallons. Pg. 16
24. What 3 countries have the most oil reserves. Table 2-2, pg 17

25. True or False. NOC means national oil companies, such as those listed in Table 2-3
26. True or False. Chevron was top oil producer in US in 2011. Pg. 21, Table 2-5
27. List the products from a 42-gallon barrel of oil. Pg. 22, Fig 2-3

28. True or False. Residential consumption is the highest oil use in US. Fig 2-5, pg. 24
29. True or False. OPEC is organization of petroleum exporting countries, pg. 25 & handout
30. Describe what has happened to oil prices in recent years and why it happened

Maximum test score is 100 points. Each question is 3 points