Geology – Class 1 – Wed June 8

Sign Attendance Sheet

Provide phone and email contact info

Introductions

Syllabus review

[www.spe,org](http://www.spe,org)

www.spegcs.org

free SPE webinars

SPE Emerging Engineers Conference. Thurs June 23 at ExxonMobil. 730-430pm. Student registration $25 before June 10. [www.spegcs.org/events/3226](http://www.spegcs.org/events/3226)

Technician jobs, O&G companies

Global oil supply by country

role of geologist and geophysicist

Pg v-ix – review table of contents

Pg 485-653 – glossary

Pg 661 – unit conversions

Pg 667-698 - index

Introduction

Pg xiii- – introduction – fluids, 3 requirements for oil and gas, sedimentary

Pg xiv- source rock, migration, porosity

Pg xv – permeability, traps

Pg xvi – seismic

Pg xvii – xix – drilling process

Pg xx -xxii – completion

Pg xxiii-xxv – surface facilities, artificial lift

Chapter 1

Pg 1- table 1.1 hydrocarbons, hydrogen and carbon

Pg 2 – waxy crude

Pg 4 – asphalt, API gravity, formula, light oil 35-45 API, heavy oil <25 API, value

Pg 5 – sulfur, sweet <1%, sour >1%, value, benchmark crudes, pour point waxy crude

Pg 6 – oil measurement bopd, 42 gal. Drums are 55 gallons

Pg 7 – refinery, bubble cap trays in distillation tower

Pg 9- table 1-4, what’s made from oil. Table 1-5, LPG and inerts, don’t burn

Pg 10 – H2S, GOR dissolved gas in oil, associated gas, non-associated gas, condensate

Pg 11 – gas measurement cubic feet per day, kcfd, mcfd. SCF is 60 deg F and 14.6 psi, BTU, BOE

Chapter 2

Pg 13 – rocks, minerals, deposition.

Pg 14-16 – igneous, sedimentary. Unconsolidated. consolidated

Pg 17 – grains, cement, pores, fig 2-4. Freshwater, brackish, seawater is 35-300 ppt. % , ppm

Pg 18 – fig 2-6, grain sizes

Pg 19 – Plate 2-1, lithology, metamorphic rock

Pg 20- earth’s crust

Pg 22- basins of world

Pg 23 – fig 2-11

Chapter 3

Pg 25- identify minerals

Pg 26 – Mohr’s scale of hardness, specific gravity

Pg 27 – quartz

Pg 29 – sedimentary rocks, conglomerate and sandstone

Pg 30 – shale, limestone

Pg 31 – figure 3-3

Chapter 4

Pg 33- age dating, radioactivity, parent, daughter, half-life

Pg 35 – table 4-1

Pg 36 – figure 4-4

Pg 37 to 39 – fossils

Pg 40 – paleo pick

Pg 42 – table 4-2

Pg 43 to 45 – earth’s history, read it all, good summary

Homework – obtain book, read table of contents, Introduction, Chap 1, 2, 3, 4

Think about subjects for Technical Presentations. Presentation #1 Wed June 22

Class 2 – Wed June 15 – Test Chap 1, 2, 3, 4. Open book