

Review Sheet for EPSC 1305
Section 3

Lecture – Soil Resources (Chp. 17)

Terms you need to know:

| | | |
|--------------------------------|--------------|----------|
| Soil | Pedocal | Pedalfer |
| Shrink-Swell Potential | Laterite | Gravel |
| Available Water Capacity (AWC) | Sand | Silt |
| Clay | Permeability | |

Concepts you need to know:

- Describe the different types of weathering associated with the formation of a soil?
- How does varying temperature and moisture influence the speed of chemical weathering?
- What are the different horizons that are associated with a soil?
- Which soils have low AWC? High AWC?
- In general, how can humans mess-up soils?
- What are some of the specific problems associated with soils in South Texas?
- What are the different ways a soil can be used as a resource?

Lecture – Mineral Resources (Chp. 15)

Terms you need to know:

| | | | | |
|----------|-----------|---------------|----------------------|--------------|
| Silicate | Quartz | Clay Minerals | Halide | Non-Silicate |
| Oxide | Carbonate | Sulfide | Pyrite | Hematite |
| Sulfate | Calcite | Gypsum | Native Element | Resource |
| Reserve | Ore | | Concentration Factor | |

Concepts you need to know:

- What is the complete definition of a mineral?
- What elements are present in a silicate mineral and know some examples of a silicate mineral
- What elements are present in the different groups of non-silicate minerals and know some examples from each group of non-silicate
- What sort of mineral resources are associated with igneous rocks?
- What sort of mineral resources are associated with metamorphic rocks?
- What sort of mineral resources are associated with sedimentary rocks?
- What problems are caused by mining?
- What are the different types of mining techniques?
- What are some mineral resources present in south Texas and elsewhere?

Lecture – Fossil Fuels (Lab 10; Chp 16)

Terms you need to know:

| | | | |
|---------------------|-------------------|--------------|-------------|
| Hydrocarbons | Oil | Natural Gas | Coal |
| Maturation | Coalification | Lignite | Bituminous |
| Geothermal Gradient | Thermogenic Gas | Biogenic Gas | Source Rock |
| Trap Rock | Enhanced Recovery | Anthracite | |

Reservoir Rock Traps Primary Recovery Coal Rank

Concepts you need to know:

How is oil and natural gas formed?

How does oil and natural gas accumulate?

What are the three types of traps?

How is petroleum extracted?

Where does petroleum form? marine or non-marine

How does coal form?

Where does coal form? marine or non-marine

What is the significance of the sulfur content in coal?

What reserves of oil and natural gas are there?

What reserves of coal are there?

Lectures – Nuclear and Alternative Energy Sources (Chp 16)

Terms you need to know:

Proton Electron Neutron Atom Isotope

Element Radiation Gamma Rays Beta Particles Alpha Particles

Critical Mass U Pu

Concepts you need to know:

What is the difference between a stable and unstable isotope?

What are the two major isotopes of Uranium

How does a conventional nuclear reactor work?

What are some of the benefits and problems with breeder reactor technology?

How does geothermal energy product electricity?

How does hydroelectric power work?

What are some of the problems associated with hydroelectric power?

How does wind energy product electricity?

What are the two types of solar energy?

What is a fuel cell?