

## Intro To Coal

# What is Coal?

- ▶ Start with boggy land.
- ▶ The decaying plants turn into peat.
- ▶ The peat gets buried
- ▶ Over time, millions of years turns into coal.
- ▶ More time and more pressure (most of the time deeper), better coal.

Better means higher carbon content and BTU/lb

# What are the Kinds of Coal?

In general, the deeper the coal the older it is and the more likely it is higher quality. The names vary by country and the number of grades (ranks) differs by country.

- ▶ Anthracite: Highest quality
- ▶ Bituminous
- ▶ Sub-Bituminous
- ▶ Lignite

Coal is often separated into two major groups.

- ▶ Metallurgical Coal: Expensive and almost pure carbon, used to make steel.
  - ▶ Coke, which is cooked coal, like charcoal is cooked wood, is a frequent substitute.
- ▶ Steam Coal: Used in electricity production.
  - ▶ “Steam Coal” is different depending on the country.

## Pictures: Peat



Figure 1

## Pictures: Anthracite



Figure 2

## Pictures: Bituminous



Figure 3

## Pictures: Lignite



Figure 4



## Heat Content, Sulfur, Carbon.

- ▶ Heat content, kJ/kg or BTU/lb in merican, varies a little bit within category.
  - ▶  $1 \text{ BTU} = 1.055 \text{ kJ}$
  - ▶ 1 BTU is enough to raises one lb of water 1 F.
- ▶ Sulfur can vary widely but except for lignite is less than 1%. This is a polutant.
- ▶ Carbon content virtually defines the ranks.

## The Numbers

Type	Carbon%	BTU/ton
Lignite	30%	10K -15K
Sub-Bituminous	40%	16K -20K
Bituminous	50%-70%	22K -30K
Anthracite	90%+	28K+

Where do you find it in the US?

Where is it mined?

# Underground Fires

How is it transported?

Why coal?

# Metalurgical Uses



# Household heating

# Steam Power

# Electrical Generation

# US Production

# BLM and Leases

# Price and Production History

# Exports