Lignite Mining & Reclamation

Unit 2: North Dakota Geology, Mining & Reclamation

Fill in the Blank

- Increased surface mining in the early 1900s led to passage of the first reclamations laws in the 1930s in the East
- There are still 14,000 acres of abandoned mined lands or "orphan spoils" still in North Dakota. Much of this land is managed by the Game & Fish Department for wildlife habitat and hunting.

Regulatory Developments

- 1969 - North Dakota Strip Mined Lands Act
- 1971 - Grade spoils to accommodate farm machinery
- 1973 - Save and replace topsoil
- 1975 - Mined lands must be returned to 100% of pre-mine productivity

Oversight

- The Federal Surface Mining Control and Reclamation Act (SMCRA) was passed in 1977
  - The US Department of the Interior oversees the Office Of Surface Mining which oversees the North Dakota Public Service Commission.

Criteria for Economically Recoverable Coal

- Minimum of 10 feet cumulative thickness in not more than two beds
- More than 25 feet beneath the surface
- Not more than 175 feet beneath the surface
- A stripping ratio of not more than 10:1 (not more than 10 feet of overburden per every foot of coal).

Two mining methods: Underground Mining and Surface Mining

Process of Mining and Reclamation

1. Obtain mining rights and regulatory approvals
2. Establish water management
3. Remove topsoil and subsoil
4. Move overburden and remove coal
5. Grade spoils to approximate original contour
6. Spread subsoil and topsoil and seed with grasses or crops
7. Obtain bond release

- Mining companies have 3 years after the coal removal to grade and seed the land.
- North Dakota coal mines have released more than 20,000 acres from bonds.