NATURAL RESOURCE DEVELOPMENT PROCESS

1. Obtain lease from rights holder
   - Land Owner
   - Government (state or federal)

2. Apply for Resource Development Permit
   - Baseline studies of environmental conditions
   - Approval of resource development plan
   - Post Reclamation Bond

3. Begin resource extraction followed by reclamation
   - periodic regulatory inspections

4. Management, monitoring, and evaluation period
   - approval and bond release
Successful Reclamation Puzzle
Reclaimed/Restored landscape in central Wyoming
BLM Wyoming Reclamation Policy:

A reclamation plan shall be developed for all surface disturbing activities and will become part of the proposed action in the NEPA document.

The reclamation plan shall address short term stabilization to facilitate long Term reclamation.

Reclamation Goals:

1. Short term goal: Immediately stabilize disturbed area and provide conditions necessary to achieve long term goals.

2. Long Term Goals: Facilitate eventual ecosystem reconstruction to maintain a safe and stable landscape and meet the desired outcomes of the land use plan.
PREDISTURBANCE SITE ASSESSMENT

Location
Land and Mineral Ownership
Land Use Status
Climate (i.e., precipitation, growing season)
History, Archeology, etc.
Air Quality
Hydrology (surface and subsurface)
Geology

Soils Inventory
- identification of all soils series
- distribution of soil types

Vegetation Inventory
- mapping of veg types
- characterization of vegetation types
- production, cover, density
- species composition, diversity

Wildlife and Habitat
OBJECTIVES OF SITE ASSESSMENT

- Characterize site for future reference
- Estimate costs of site development and reclamation
- Determine site reclamation potential
  - Selection of reference area
  - Determine soil salvage depth
- Identification of areas with Limited Reclamation Potential
- Identification of potential problems
  - shallow soils
  - critical wildlife habitat
  - threatened or endangered species
Soil Mapping or Survey Information (NRCS)
Soil types and distribution

Soil Analyses from samples collected on site
Texture, pH, EC, Organic Matter Content

Depth of suitable plant growth material
(soil salvage depth)
IMPORTANT VEGETATION INFORMATION

Cover
Vegetative Cover, Total Ground Cover, Bare Ground

Production
Total production, Herbaceous Production by Species

Density and Distribution
Full shrubs, Sub-shrubs and Trees

Species Diversity

Species Composition

NRCS Ecological Site Descriptions
RECLAMATION PLAN

Landscape Reconstruction
Topography, stream channels, drainages, impoundments

Topsoil Salvage, Storage and Replacement
approach and schedule
depth of salvage
stockpiling method
tillage
soil amendments

Revegetation
approach and schedule
plant species selection (seed mix)
seedbed preparation
seeding methods

Erosion Control Practices
Weed Control Plan
Site Monitoring Schedule
Reclaimed surface coal mine site east of Rawlins