

# WYOMING RECLAMATION AND RESTORATION CENTER

## RECLAMATION 101 WORKSHOP: COMPONENTS OF SUCCESSFUL RECLAMATION

### RECLAMATION PLANNING

#### I. Resource Development Process

##### A. Obtain Mineral Lease from mineral rights holder

1. Land Owner
2. Government (State or Federal)

##### B. Apply for Drilling Permit

##### C. Planning for development of individual well sites

1. Baseline Studies of Environmental Conditions
2. Develop a Drilling Plan and a Reclamation Plan
3. Master Development Plan ? Master Mitigation Plan ?

##### C. Begin Drilling and Reclamation Processes

1. Periodic Regulatory Inspections

##### D. Management, Monitoring, and Evaluation Period

1. Approval of Reclamation for Rollover?

## II. Pre-Mining Planning Phase

### A. Baseline Environmental Data Collection

1. Location
2. Land and Mineral Ownership
3. Land Use Status
4. Physiography
5. Climate
6. History, Archeology, etc.
7. Air Quality
8. Hydrology
  - a. surface
  - b. subsurface
9. Geology
10. Soils
  - a. Soils Inventory
    - identification of all soils series
    - distribution of soil types
    - characterization of soil types
11. Vegetation
  - a. In-depth Analysis
    - mapping of veg types
    - characterization of vegetation types
      - production, cover, density
      - species composition, diversity
12. Wildlife
  - a. In-depth analysis
13. Socio-economic Factors

## B. Objectives of Baseline Data Collection

1. Determine Economic Feasibility of Drilling
2. Determine Environmental and Social Feasibility of Development
3. Characterize Well Site for future reference
4. Identification of Potential Problems
  - a. Examples:
    - difficult surface topography
    - problematic soils
    - critical wildlife habitat

## III. Reclamation Plan

### A. Influenced by:

1. Drilling Plan - Also influences Drilling Plan
2. Results of Baseline Studies
3. Regulatory Agency Requirements

### B. Addresses:

1. Wellpad Location and Design
  - a. Construction Procedures
  - a. Post-Mining landscape contours
2. Topsoil Salvage, Storage and Replacement
  - a. depth of salvage
  - b. method of storage
3. Revegetation
  - a. Approach and Schedule
  - b. Plant species selection
  - c. Seeding Methods
  - d. Cultural Practices
  - e. Soil Amendments
  - f.
4. Erosion Control Practices
5. Hydrology
  - a. surface streams/drainage
6. Topography
  - a. reconstruction/reconnection
7. Wildlife
  - a. Threatened/Endangered/Protected species issues

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