10-14-2009


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Best Management Practices
Planning, Leasing, Permitting

Jamie Connell
BLM Northwest Colorado
District Manager
BLM – Planning

• National Environmental Policy Act (NEPA)
• Federal Land Policy and Management Act (FLPMA)
• Foundation for sustainable resource decisions
• Balances competing use
• Basis for legally-defensible resource management decisions
• Timely implementation decisions
1. Resource Management Plan (RMP)
   - Designate Special Management Areas
   - Set resource goals & objective
   - Availability for Oil & gas, coal leasing with appropriate stipulations
   - Travel management
   - Land tenure adjustments
   - Wild & Scenic River Suitability
2. **Activity/Implementation Plans**

- site specific detailed management plans
- allotment management plans
- oil and gas permitting with conditions of approval
- recreation management plans
Glenwood Springs Field Office

BLM Surface: 567,395 acres

Federal Mineral Estate: 748,228 acres, plus 1.5 million acres of FS
Master Development Plans

- Plan for wells, production facilities, roads, and pipelines and mitigation
- One NEPA analysis vs. multiple redundant processes and documents
- Proposed wells approved without additional NEPA
- Additional wells approved using Statutory CX
Directional Drilling

- Multi-well locations
- Reduced well pad density
- Reduced road density
- Dual rig operations
Efficiency
Drilling Rigs

- Smaller footprint
- 22 wells per pad
- 75% reduction in surface disturbance
- Reduced habitat fragmentation
- Expanded gas recovery in extreme topography
Remote Frac/Centralized Production Tanks

- Fracing new wells from up to four miles away
- Use of temporary surface lines
- Centralized tanks serving 87 wells
Water Delivery Systems

- Temporary, poly water pipelines
- Delivers water for drilling and completions
- Eliminates water truck traffic and impacts
Clustered Development

- Compressor facility
- Two well locations
- 10 wells
Hydro ax/chipping

- Clearing heavy woodland corridors
- Fuel reduction, mgt
- Enhanced rehab
- Big game habitat mitigation
Pipeline Boring

- Avoids steep slope construction
- Eliminates visual impacts
Off-site Production Facilities

- Production facilities located off well location
- Provide immediate production while other wells drilled
- Minimize well pad footprint
Camo Facility Paint

- Custom color patterns
- Minimize color contrast
- Maximize visual mitigation
Colorant

- Fired clay colorant
- Turf reinforcement mat
- Growth medium
- Water infiltration enhancer
Exhaust Stack Screens

- Migratory bird mitigation
- Prevents entry by birds
- Flat screens vs. cones
- Remote telemetry
Pit Netting

- Migratory bird mitigation
- Prevents bird entry
- More effective than flagging
CMP Containment “Berms”

- Metal containment areas
- Synthetic liners
- Leak proof/fail proof
- Load lines inside
Phased Development
Roan Plateau

- Development limited to one geographic area at a time
- Phasing to new area after fully developed and interim reclamation
- Total surface disturbance limited to 1 percent acres available
Temporary Reclamation

- Quick cover species
- Use of sterile hybrids
- Mulching
- Areas not subject to interim reclamation first yr
- Areas to be redisturbed
Interim Reclamation

- Grading, shaping cuts and fills
- Topsoiling
- Revegetating areas not needed for production operations
Wrap-up

Questions, discussion, debate…