

**U.S. Department of the Interior  
Bureau of Land Management  
Rawlins Field Office**

**Hatfield 3D Geophysical Exploration Project**

**WY-030-06-EA-180**

**Decision Record  
And  
Finding of No Significant Impact**

**DECISION**

It is my decision to adopt the proposed action alternative and, consequently, authorize geophysical exploration as described in the attached environmental assessment (EA). This project will take place in the vicinity of Hatfield Dome, within the jurisdiction of the Rawlins Field Office, Carbon County, Wyoming.

**FINDING OF NO SIGNIFICANT IMPACT**

Based on the analysis of potential environmental impacts contained in the attached EA, I have determined that the impacts are not expected to be significant and that an environmental impact statement is not required.

**RATIONALE FOR DECISION**

Public participation, consultation, and coordination have occurred. The BLM issued a news release on March 1, 2006, allowing a 30-day public scoping prior to preparation of the EA. All issues brought forth during scoping have been considered in the preparation of the EA. Scoping comments are summarized in Appendix D. Compared to the no action alternative, the proposed action best meets the standards and direction of the various guiding laws, regulations, and directives that apply in this matter, including the *Federal Land Policy and Management Act* (43 USC 35). The Proposed Action best meets decisions from, and is in conformance with the Great Divide RMP and current national energy policy. This project, when implemented with mitigation, seasonal restrictions, and conditions of approval as described, will result in minimal short term impacts and no long term impacts to the environment. Authorization will allow the proponent to collect geophysical information to assist in the location and extraction of oil and/ or natural gas resources.

**COMPLIANCE AND MONITORING**

Designated Bureau of Land Management personnel will monitor and review project operations as needed to ensure that mitigation measures are in compliance with the terms and conditions of the exploration permit. Operations can be suspended during any portion of the project when, in the judgment of the BLM Authorized Officer, Dawson or any contractor hired by Dawson have not complied with any terms or conditions described in the approved NOI and Special Terms and Conditions to be applied

**APPEAL**

This decision is effective upon the date the decision or approval by the authorized officer. The decision or approval may be appealed to the appropriate office of the Interior Board of Land Appeals in accordance with regulations contained in 43 CFR 3150.2. If an appeal is filed, a copy of the notice of appeal must be

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filed in this office (Rawlins Field Office, P.O. Box 2407, 1300 North Third Street Rawlins, Wyoming 82301) within 30 days of receipt of the decision. The appellant has the burden of showing the decision or approval appealed from is in error. If you wish to file a petition for stay pursuant to 43 CFR 3150.2(b), the petition for stay should accompany your notice of appeal and shall show sufficient justification based on the following standards:

1. The relative harm to the parties if the stay is granted or denied,
2. The likelihood of the appellant's success on the merits,
3. The likelihood of irreparable harm to the appellant or resources if the stay is not granted, and
4. Whether the public interest favors granting a stay.

Each adverse party to an appeal must be provided copies of all documentation. The adverse parties for this action are:

Pat Winkler  
Whiting Oil & Gas Corporation  
1700 Broadway, Suite 2300  
Denver, CO 83113

Joe Broussard  
Dawson Geophysical Corporation  
8400 E. Prentice way, Suite 1500  
Greenwood Village, CO 80111



Rawlins Field Office Manager

07/19/2006

Date

**Appendix A**

**SPECIAL TERMS AND CONDITIONS**

**Rawlins Field Office**

**Dawson Geophysical Corporation  
Hatfield 3D Geophysical Project**

**WY-030-05-EA-180**

The following measures are in addition to those incorporated into the Notice of Intent to conduct this project.

**AUTHORIZATION**

The Plan of Operations submitted with the Notice of Intent to Conduct Geophysical Exploration is considered an integral part of the project proposal and must be followed during the execution of the project.

**MINERALS: OIL & GAS (AND OTHER) FACILITIES/FLUID MINERALS**

1. Dawson Geophysical will utilize the *One Call* service to obtain information in the planning for and avoidance of buried utilities.
2. Energy source points shall be located a minimum of 300 feet from standing structures unless written permission to encroach closer has been given by the land owner (BLM H-3150-1 Handbook).
3. Surveying paint shall not be applied to any existing structures or objects (i.e., buildings, fences, signs, rocks, etc.)
4. The operator shall be required to repair any damage to facilities caused by their operations.

**PALEONTOLOGICAL RESOURCES**

1. The operator is responsible for informing all persons associated with this project that they shall be subject to prosecution for damaging, altering, excavating or removing any vertebrate fossil objects on site.
2. If vertebrate paleontological resources (fossils) are discovered on BLM-administered land during project operations, the operator shall suspend operations that could disturb the materials, and immediately contact the BLM Rawlins Field Office Manager (Authorized Officer). The Authorized Officer would arrange for evaluation of the find within 5 working days and determine the need for any mitigation actions that may be necessary. Any mitigation would be developed in consultation with the operator, who may be responsible for the cost of site evaluation and mitigation of project effects to the site. If the operator can avoid disturbing a discovered site, there is no need to suspend operations; however, the discovery shall be immediately brought to the attention of the Authorized Officer.

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3. If non-vertebrate paleontological resources (fossils) are discovered on BLM-administered land during project operations, the operator shall contact the BLM Rawlins Field Office Manager (Authorized Officer), but is not required to suspend operations that could disturb a discovered site.

**SOILS**

1. No vehicle operations (buggy vibes, recorder trucks, pickups, ATVs) shall be allowed on slopes of 25% or greater.
2. Avoid constant use of the same access routes in order to reduce soil compaction. Highly erodible soils locations, particularly steep slopes, sand dune areas, or drainages, shall be avoided.
3. The operator shall not conduct vehicle operations during periods of saturated ground conditions when surface rutting over 4 inches would occur.
4. Damaged areas would be promptly stabilized by seeding with native plant species and utilizing temporary erosion control devices such as mulch and jute netting if warranted. Specific measures and locations for use would be determined during field investigations by personnel from the operator and the BLM.
5. The operator shall reclaim and reseed any areas where their operations have caused surface rutting or have otherwise removed all of the surface vegetation as directed by the Authorized Officer. Reclamation guidelines and seed mixtures are listed in Appendix A of the Terms and Conditions.
6. BLM controlled burns are scheduled in the project area during the Fall of 2006. All off-road vehicle travel is restricted in the areas that have been burned to avoid excessive soil erosion. Surveying and recording activities in the controlled burn areas shall be coordinated with BLM range staff (Chris Otto 307-328-4250).
7. In order to minimize soil compaction and impacts to vegetation from off road travel, extra wide, low pressure "terra tires" shall be installed on the buggy drills and vibroseis buggies to reduce ground pressure.

**WATER RESOURCES**

1. No vibroseis (source) points shall be permitted within 500 feet of springs, seeps, or riparian areas.
2. No vehicle traffic shall be allowed in wetland and riparian areas; traffic shall remain on dry ground.
3. Vehicular traffic across/through drainage channels shall be limited to sloping drainage sides (less than 25% slope) or to vertical banks of less than two feet. Channel crossings shall be aligned perpendicular to the stream channel, to the extent practicable. No off road travel shall occur in channel crossings with standing water unless identified in the travel/route activity plan and/or approved by BLM.
4. A final travel route/activity plan for each phase of the project must be submitted and reviewed by a BLM before work begins. Please allow three weeks for the review of the plan.

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5. Multiple vehicle passes shall be minimized on the off road travel ways identified in the travel route/activity plan.
6. The Operator shall conduct all drilling and hole plugging operations in strict conformance with all Wyoming Oil and Gas Conservation Commission requirements
7. Submit a copy of the "Hole Plugger's log" for each hole of the shotline describing: whether the holes were wet or dry; static water level if appropriate; any flowing holes; breached or caved holes; approximate volume of bentonite used per hole; any lost hole locations; etc., with the Notice of Completion.
8. Shot holes shall be inspected for subsidence within one field season and prior to release of the bond liability.
9. Pumping water out of stock ponds or other water reservoirs on BLM administered land for any project use is not allowed, unless authorized by the BLM.

**VEGETATION**

1. No cross-country operation of vehicles is authorized outside the approved travel route/activity plan.
2. The geophysical operations shall be conducted whereby the vibroseis buggies stagger their paths of travel, so that no vehicle is treading over the path of another vehicle, except when using existing roads and vehicle routes. Optimally, this would occur such that the total disturbance width would be as narrow as possible.
3. Disturbance of vegetation would be limited by minimizing the number of times the vehicles travel over their designated off-road access routes. Steep slopes, dunal areas, or ephemeral drainage areas shall be avoided where possible. If required, damaged areas shall be seeded with native plant species recommended by the BLM authorized officer (Appendix A, Terms and Conditions).
4. To protect wildlife cover, all vehicle traffic should avoid stands of tall shrubs. Stands of tall shrubs are defined as areas in which the majority (more than 50%) of sagebrush, mountain mahogany, and/or serviceberry are 4 feet or taller.
5. Source points and vehicle traffic shall be offset around individual trees and where possible, entire stands, so that aspen habitat and the species that rely on this habitat would not be negatively impacted. No trees shall be cut.
6. In order to minimize soil compaction and impacts to vegetation from off road travel, extra wide, low pressure "terra tires" shall be installed on the buggy drills and vibroseis buggies to reduce ground pressure.

**INVASIVE SPECIES**

1. To minimize the potential for the introduction of new weeds, the operator shall thoroughly power-wash all field vehicles (buggy vibes, pick-ups, ATVs, etc.) before transporting them to the project area.
2. To help prevent the spread of existing populations of invasive and/or noxious weeds, information on the more common species with potential for occurrence in the project area shall be distributed

to crew members. The crew members shall be instructed to avoid travel through any populations of these species that they encounter, and asked to report the locations of the populations to the BLM.

3. The operator shall reclaim and reseed any areas where their operations have caused surface rutting or have otherwise removed some of the surface vegetation as directed by the Authorized Officer. Reclamation guidelines and seed mixtures are listed in Appendix A of the Terms and Conditions.
4. Weeds shall be controlled on project disturbed areas and native areas infested as a direct result of the project. The control methods shall be in accordance with guidelines established by the EPA, BLM, state and local authorities. Prior to the use of pesticides, the operator will obtain written approval from the BLM Authorized Officer (meaning an approved Pesticide Use Proposal form--showing the type and quantity of material(s) to be used, pest(s) to be controlled, method of application, etc.).
5. Until native vegetation is well established, a weed monitoring program may be required on rehabilitated locations associated with the project as directed by the Authorized Officer.

#### **RANGE/ LIVESTOCK**

1. The operator shall make every effort to avoid disturbing or altering fences. Fences should be passable for most wire or cable apparatus, but vehicles are required to go around fences through established gated or cattleguard crossings. If a fence is broken in any capacity, the BLM range staff (Chris Otto 307-328-4250) shall be notified immediately with the location in order to coordinate fixing the break by a qualified person.
2. Vibroseis and shothole source points shall be located a minimum of 300 feet from all water wells, stockponds, and water developments unless written permission to encroach closer has been given by the landowner.
3. Moving or altering any range improvement project is not authorized. The Rawlins BLM range staff shall be notified prior to any moving or alterations. The operator shall be responsible for the repair and or replacement of any facilities damaged during the course of this project.
4. BLM controlled burns are scheduled in the project area during the spring and fall. All off-road vehicle travel is restricted in the areas that have been burned to avoid excessive soil erosion. Surveying and recording activities in the controlled burn areas shall be coordinated with BLM range staff (Chris Otto 307-328-4250).

#### **WILDLIFE and SPECIAL STATUS ANIMAL AND PLANT SPECIES**

1. Project activities potentially disruptive to nesting raptors are prohibited during the period of February 1 to July 31 for the protection of raptor nesting areas.
2. A biologist shall inventory raptor nest activity if the proposed project is scheduled to be carried out during the period February 1 to July 31.
3. Avoid surface disturbing and disruptive activities in suitable greater sage-grouse/sharp-tailed grouse identified nesting and early-brood rearing habitat between March 1 to July 15 unless exception is granted. A controlled surface use (CSU) applies within ¼ mile of lek perimeter. Avoid human activity between 6pm-9am March 1-May 20 within ¼ mile of lek perimeter.

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4. Potential mountain plover habitat exists within the proposed project location. Project activities are prohibited during the reproductive period of April 10 to July 10 for the protection of nesting mountain plover.
5. Crucial winter range for elk exists within the project area. Project activities are prohibited during the period of November 15 to April 30 for the protection of big game winter range habitat.
6. Please be advised that due to limits on the available time of qualified personnel, the unpredictability of wildlife, and future weather conditions, requests for exceptions to impending wildlife stipulations will only be considered in the event of extraordinary and unavoidable occurrences over which the company has little or no control. Additionally, projects must be initiated in a time frame which would allow for completion of the project prior to the beginning date of wildlife protection stipulations.
7. Where prairie dogs are present, vibroseis is prohibited over active burrows and shotholes are prohibited within 200 ft, based on a shot hole depth of 40 feet and a charge weight of 10 pounds.
8. No dogs or firearms shall be in the possession of project employees within the project area.
9. To protect wildlife cover, all vehicle traffic should avoid stands of tall shrubs. Stands of tall shrubs are defined as areas in which the majority (more than 50%) of sagebrush, mountain mahogany, and/or serviceberry are 4 feet or taller.
10. Source points and vehicle traffic shall be offset around individual trees and where possible, entire stands, so that aspen habitat and the species that rely on this habitat would not be negatively impacted. No trees shall be cut.
11. Crews shall receive information regarding Laramie false sagebrush, Nelsons milkvetch, Pale blue-eyed grass, Persistent-sepal yellowcress, and Rocky Mountain twinpod (Appendix B, Terms & Conditions) in order to enable them to identify and avoid these sensitive species.

**VISUAL RESOURCES**

1. The operator shall offset all off-road vehicle traffic over a 50-foot wide swath on either side of the staked seismic line, so that one vehicle does not drive the same path as another vehicle.
2. The operator shall clean up all project lathe, flagging, and incidental trash as operations proceed through an area. The collected trash shall be hauled to a DEQ approved disposal site.

**RECREATION**

1. Off-highway vehicle use in advance of issuance of project approval is limited to the single pass (no overlapping tire tracks) of vehicles under 10,000 lbs GVW (ATVs and ½ ton pick-ups or the equivalent in conformance with BLM Manual 3150, part 3.1.B.5). The 25% slope restriction and saturated soil restriction still apply.
2. The project area is located in an area used by pronghorn antelope, elk, and mule deer hunters. Big game hunting season is scheduled to begin September 20, 2006 in the project area. To mitigate potential conflicts between operations and hunting/recreational activities, the operator shall post signs along the primary access roads into the area (State Highway 71, BLM Roads # 3301, and #3420), if operations are being carried out, and provide an approximate end date for completion. As well, signs should refer the public to the BLM in the event that they have questions or concerns. Please provide telephone numbers of the Rawlins Field Office (307-328-

- 4200). The signs shall be posted, if operations will overlap with the hunting season, no later than 30 days before startup. These signs shall be removed promptly upon completion of the project.
3. Project recording operations shall begin first in the western portion of the project on Atlantic Rim and work towards the east to help reduce disturbance to big game hunting.
  4. Field personnel shall wear blaze orange vests, jackets or hats during rifle big game hunting seasons (September 20 – November 20).
  5. Operations will not be conducted within the Rim Lake BLM recreation site

### **SOCIOECONOMIC CONSIDERATIONS**

No approval conditions have been identified.

### **CULTURAL/HISTORICAL RESOURC**

1. Dawson shall provide a Class III cultural resource inventory report and site forms to the established Standards of Bureau of Land Management Wyoming Cultural Resource Use Permit. All cultural resources, unless previously determined not eligible to the National Register of Historic Places, will be avoided by all project activities, source and receiver lines, staging areas and heliportable activities. The Class III cultural survey will be guided by the following requirements:
  - a. **Travel Route/Activity Plan:** A map will be provided that has all the travel routes, staging areas, drive around ways, and support areas designated on it. This map will cover all transportation aspects of the project. This map will be at 1:24,000 foot scale. Smaller scale maps may be used for field compliance work. A copy of this map will be in the possession of all Dawson Field Crew Leaders during operation on the project.
  - b. **Receiver Lines:** A Class III cultural survey does not have to be done on receiver lines unless they are part of the travel route/activity plan. Cultural resources identified during the records review will be avoided by project design. Receiver lines will only have foot traffic allowed during the project in those areas that are not part of the travel route/activity plan. Flagging and other designation methods will be maintained during the life of the project and removed when the project is over. Exceptions are when the geophone lines are tested. One ATV only will be present on the receiver line to fix problems as they are identified. Driving of the ATV will be limited in scope and confined to designated areas of the receiver lines geophone spreads. ATV traffic will not be allowed through identified sites, even for geophone testing. There will be no other vehicle traffic allowed on receiver lines unless they have been designated as part of the travel route/activity plan for moving equipment around. The receiver lines that are designated travel routes will have a Class III cultural resource survey completed (see Source Lines). No cross-country operation of ATV's is authorized.
  - c. **Source Lines:** Source lines are those lines on which all vehicle and vibroseis truck traffic will occur. These lines will have a Class III survey completed during the design phase of the travel route/activity plan development. The travel route/activity plan map will show all of the drive around ways. All drive around routes, for cultural resources or for other environmental reasons, will be adequately marked. Flagging and other designation methods will be maintained during the life of the project and removed when the project is over. Source lines and travel routes will have a Class III survey conducted that is 100 feet wide, 50 feet either side of the center line. Where vibroseis trucks must turn around, a sufficient area will be surveyed at a Class III. Turn around areas will be shown on the

- map as well. No cross-country operation of vehicles is authorized outside the approved travel route/activity plan.
- d. **Drive around Routes and Barriers:** The archaeological consulting firm, in conjunction with Dawson, will provide adequate visual protection for cultural resources. Standard site avoidance (by all vehicles including ATVs) entails, at a minimum, a 32.8-meter (100 foot) or more buffer zone around all eligible and unevaluated sites. Sites of potential Native American concern are subject to special measures, as specified below. Sites previously determined to be not eligible for nomination to the NRHP require no further action if the field reexamination confirms that the previous recordation is still accurate.
  - e. **Barriers** will be flagged on both sides of the source/receiver line that bisect a cultural resource.
  - f. **Drive-around routes** will be adequately marked and will be surveyed at a Class III level. Flagging and other designation methods will be maintained during the life of the project and removed when the project is over.
  - g. **Support Areas:** Staging, base stations, and equipment areas, as well as any other areas containing concentrations of people and equipment, will be surveyed at a Class III level with a suitable buffer, Area of Potential Effect. These areas will be identified on the travel route/activity plan map.
2. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (307) 328-4200 (Rawlins Field Office). Within five working days, the AO will inform the operator as to:
- Whether the materials appear eligible for the National Register of Historic Places;
  - The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
  - Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
3. Dawson will provide a cultural resource inventory report(s) addressing that portion of the project located within the area of potential effect of historic transportation routes/sites for which setting might be an issue. The report, including recommendations, will be submitted to BLM who, in consultation with the Wyoming SHPO, will determine effects of the proposed project. Geophysical activities will not be permitted to create visual intrusions or adverse effects to historic transportation routes/sites for which setting might be an issue. Based on determination of effect, BLM-RFO will issue project authorization for operations in this area with appropriate conditions.
4. Dawson's archeological consultant will obtain a cultural resource files search printout from the SHPO Cultural Records Office shortly before commencing fieldwork. Based on this, the consultant will identify previously recorded cultural resource sites on federal and non-federal lands in the project area. Using site form copies obtained from SHPO, the consultant will plot these sites onto the project map for Dawson, who will design avoidance for these properties prior to the survey. Previously determined not eligible properties will be revisited to assure that they are adequately recorded.

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5. Due to the complexity/size of the project, the project will be conducted in phases. Before each phase is authorized to proceed, a final cultural report must be submitted and reviewed by a BLM staff archaeologist. Please allow three weeks for the review of the report and field review of the project.
6. Vibroseis (source) points must be at further than one quarter mile or the visual horizon (whichever is closer) of the Overland Trail. Geophone receiver cable within one quarter mile of the trail shall be placed by helicopter-assisted pedestrians.
7. No project-related vehicle traffic (industrial access) is permitted on the Historic trails. The Historic trails may be crossed at existing disturbances or in areas previously determined to be noncontributing. Single pass crossings on poorly established roads will be permitted when the route is approved by the Bureau archaeologist and will not result in resource damage.
8. Dawson is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archeological sites, or for collecting artifacts. Also, should previously unrecorded cultural materials be encountered during the project, work shall be stopped until the BLM's Authorized Officer can be notified and then material properly evaluated by a qualified archaeologist.
9. All off-road vehicular traffic will be confined to a corridor 100 feet wide (50 feet either side of the flagged centerline) along lines that have been inventoried for cultural resources.
10. Maps indicating the drive-around routes shall be carried by personnel in the field. If the situation arises where project personnel cannot determine the appropriate drive-around routes, Dawson must request assistance from the contract archaeologist or contact a BLM archaeologist.
11. Any cultural resource discovered by the operator, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Dawson shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. Dawson will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder. Dawson will be responsible for all costs of mitigation.

**NATIVE AMERICAN RELIGIOUS CONCERNS**

1. Native American sites including but not limited to rock art, cairns, and stone circles shall be avoided by vehicle traffic by a minimum of 300 feet unless closer activities are approved through completion of consultation with the affected tribes and written permission is given by the authorized officer.
2. Native American funerary sites will be evaluated on a case by case basis for site specific avoidance and mitigation measures.
3. Source locations must be at least ¼ mile from rock art sites or standing cairns unless closer activities are approved through completion of consultation with the affected tribes and written permission is given by the authorized officer.
4. Standard stipulations regarding human remains and other discoveries shall apply to this project. See Cultural/Historic Resources section above.

5. If any additional sites of potential Native American religious concern (e.g. rock art, vision quest structures, human burial sites, prehistoric cairns, stone circles) are identified by Dawson personnel within 500 feet of any proposed off-road travel route regardless of surface ownership, the BLM Rawlins Field Archaeologist shall be promptly notified. The need for special mitigative measures and/or additional Native American consultation shall be determined by the BLM Rawlins Field Office.

**NOISE, WASTE, and SAFETY**

1. The Operator shall clean up all project lath, flagging, and incidental trash as operations proceed through an area. The collected trash shall be hauled to a DEQ approved disposal site.
2. Energy source points shall be located a minimum of 300 feet from standing structures unless written permission to encroach closer has been given by the land owner (BLM H-3150-1 Handbook).
3. Hazardous materials, other than those identified in the operator's Plan of Operations, shall not be stored for any length of time on BLM administered land. Additionally, no hazardous waste shall be disposed of on federal land. The term hazardous material means: 1) any substance, pollutant, or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA, 2) any hazardous waste as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, and 3) any nuclear or nuclear byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.
4. The operator shall clean up all oil, diesel or hydraulic fuel spills, including contaminated soils. All spill-related material shall be hauled to a Wyoming DEQ approved disposal site. Spills resulting from ruptured pipelines or well casings shall be cleaned up as directed by DEQ and the facility owner/operator.
5. The operator shall place all tanks holding bulk liquids within lined containment areas. Capacity of the containment area shall be 110% of the largest tank. Bulk liquids contained in tanker semi-trailers may be parked in a safe location on the staging area. Fueling of equipment or maintenance of equipment shall be done at least 500 feet away from riparian or other open water areas.
6. The operator shall prepare an Emergency Response Plan addressing fire and submit it to the Authorized Officer for review at least one week prior to any project field operations. The operator shall coordinate with the nearest paramedic providers for life flight and ambulance service to establish Landing Zones across the project. These zones will be used in case of serious injury to workers needing immediate evacuation.
7. The following information concerning the helicopter shall be reported directly to Rawlins Fire Dispatch Center at (307)328-4393:
  - Dates of operation
  - Helicopter tail or N number
  - Location of landing zone/base (latitude and longitude)
  - Area the helicopter will be flying in (either on a map or geographical listing)
8. Explosives/detonators shall be transported in accordance with Federal Department of Transportation regulations. Explosives shall be stored and handled according to U.S. Bureau of Alcohol, Tobacco and Firearms (ATF) and Occupational Safety & Health Administration (OSHA)

standards. Explosive materials storage shall be located out of sight and at least one-quarter mile from traveled roads.

9. Shot holes shall not be left loaded longer than is required to complete drilling and loading operations throughout the project area. Recording operations should commence as soon after loading operations as is possible and should normally commence within 60 days of the completion of loading operations.

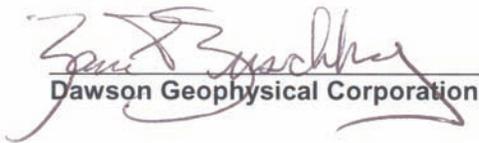
**AREAS OF CRITICAL ENVIRONMENTAL CONCERN**

1. With implementation of the mitigative measures discussed under the Soils, Water Resources, Vegetation, Invasive Species, Wildlife and Special Status Animal and Plant Species sections of the proposed action, No approval conditions have been identified.

**COMPLIANCE AND MONITORING**

1. Designated Bureau of Land Management personnel will monitor and review project operations as needed to ensure that mitigation measures are in compliance with the terms and conditions of the exploration permit. Operations can be suspended during any portion of the project when in the judgment of the BLM Authorized Officer, Dawson or any contractor hired by Dawson have not complied with any terms or conditions described in the approved NOI and Approval Conditions to be Applied.

Accepted by:

  
Dawson Geophysical Corporation

Date 7-10-06

**Appendix B**

**PROJECT RECLAMATION AND RESEEDING GUIDELINES**

At the earliest mutual convenience upon completion of the project, areas disturbed by seismic activities will be evaluated in the field by the BLM Authorized Officer and the operator's representative to determine the need for restorative re-vegetation.

In general:

Disturbed areas where major compaction has occurred will require scarification or disking to loosen subsoil.

Certified weed-free straw or other mulch may be applicable where erosion potential is deemed likely.

Planting will occur between September 15 and the time of ground freeze or snow cover, or in the spring prior to May 30. Seed must be certified weed-free. Pounds of seed specified in the mix are based on weight of pure live seed (PLS). The total 26 pounds of mixed pure live seed are to be applied to one acre. This application rate is double that for drilled seed, based on the assumption that the seed will be broadcast and raked in by hand. Seed shall be broadcast as uniformly as possible, and incorporated in the soil to an optimum depth of 0.25 inch with hand rakes.

The basic seed mixes below will be used or modified as directed by the Authorized Officer.

**RECOMMENDED LOW PRECIPITATION SEED MIXTURE:**

Species of Seed	Variety	Lbs. PLS
<b>Grasses</b>		
Thickspike wheatgrass ( <i>Agropyron dasystachyum</i> )	Critana	8.0
Slender wheatgrass ( <i>Agropyron trachycaulum</i> )	Pryor	4.0
Western wheatgrass ( <i>Agropyron smithii</i> )		4.0
Indian ricegrass ( <i>Oryzopsis hymenoides</i> )		2.0
Bottlebrush squirreltail ( <i>Sitanion hystrix</i> )		2.0
Needle-and-thread ( <i>Stipa comata</i> )		2.0
<b>Shrubs</b>		
Wyoming big sagebrush ( <i>Artemesia tridentata wyomingensis</i> )		1.0
Gardner's saltbush ( <i>Atriplex gardneri</i> )		<u>2.0</u>
<b>Total</b>	<b>Lbs. PLS</b>	<b>25.0</b>

**RECOMMENDED SEED MIXTURE FOR ATLANTIC RIM:**

Species of Seed	Variety	Lbs. PLS
<b>Grasses</b>		
Western wheatgrass ( <i>Agropyron smithii</i> )		4.0
Bluebunch wheatgrass ( <i>Agropyron spicatum</i> )		4.0
Idaho fescue ( <i>Festuca idahoensis</i> )		4.0
Green needlegrass ( <i>Stipa viridula</i> )		6.0
Mutton bluegrass ( <i>Poa fendleriana</i> )		1.0
Mountain brome ( <i>Bromus carinatus</i> )	Bromar	4.0

Hatfield 3D Geophysical Exploration Project Decision Record and Finding of No Significant Impact

**Shrubs**

Wyoming big sagebrush ( <i>Artemesia tridentata wyomingensis</i> )			1.0
Antelope bitterbrush ( <i>Purshia tridentata</i> )			<u>1.0</u>
	<b>Total</b>	<b>Lbs. PLS</b>	25.0

**Appendix C**

**BLM WYOMING SENSITIVE SPECIES**

***Astragalus nelsonianus***

**Nelson's Milkvetch**

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**Status:**

US Fish & Wildlife Service: None.  
Agency Status: WY BLM Sensitive.  
Heritage Rank: G2/S2

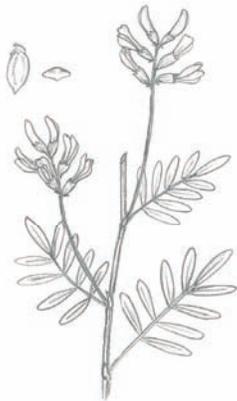
**Description:** Nelson's milkvetch is a selenium-scented perennial herb with fleshy-leathery stems 10-30 cm tall. Stems are decumbent at the base and arise from a shallowly buried rootcrown. Lower stipules are papery and fused, while the upper stipules may be free or fused only at the base. Leaves are 4-9 cm long, nearly sessile, and divided into 5-11 linear to oblong leaflets. The leaflets are equally pubescent above and below with short, appressed, basally attached hairs. Individual leaflets are attached directly to the grooved rachis without a distinct joint. The inflorescence is a raceme of 6-20 white flowers with banners over 20 mm long. The calyx tube is 7-9 mm long. Fruits are oblong to elliptical, 15-33 mm long, semi-woody at maturity, and borne on downward-curved stalks.

**Synonyms:** *Astragalus pectinatus* var. *platyphyllus*.

**Similar Species:** *Astragalus grayi* has erect to ascending fruits, calyx tubes shorter than 6 mm, and cream-colored flowers. *A. pectinatus* var. *pectinatus* has smaller fruits and extremely narrow leaflets with strongly inrolled margins. *A. bisulcatus* often has purple or bicolored flowers, leaflets jointed to the rachis, and 2-grooved fruit.

**Flowering/Fruiting Period:** Flowers from mid May-late June. Fruits present from late June-August.

**Range:** Regional endemic of southwest and central Wyoming, northeast Utah, and northwest Colorado. In Wyoming, it is known from the Wind River, Green River, Washakie, southern Powder River, and Great Divide basins, Owl Creek Mountains, and the Rock Springs Uplift in Fremont, Natrona, and Sweetwater counties.



Above: *Astragalus nelsonianus* by W. Fertig.

**Habitat:** Occurs on alkaline, often seleniferous, clay flats, shale bluffs and gullies, pebbly slopes, and volcanic cinders. Known occurrences are found primarily in sparsely vegetated sagebrush, juniper, and cushion plant communities at elevations of 5200-7600 feet.

**Abundance and Trends:** Nelson's milkvetch is known from 30 extant and 4 historical occurrences in Wyoming (Heidel 2002), over 20 of which have been observed since 1980. Population and trend data are lacking for most sites, but populations are presumed to be stable at present.

**Management Status:** Found on public lands managed by the BLM Casper, Lander, Rawlins, and Rock Springs Field Offices and Ashley National Forest (Flaming Gorge National Recreation Area). All known populations are on private or public lands managed for multiple use.

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***Astragalus racemosus* var. *treleasei***

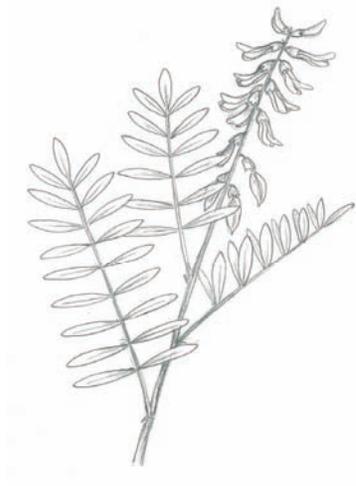
**Trelease's Racemose Milkvetch**

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**Status:**

US Fish & Wildlife Service: None  
Agency Status: WY BLM Sensitive  
Heritage Rank: G5T2/S1

**Description:** Trelease's racemose milkvetch is a perennial, selenium-scented forb with erect, nearly glabrous green stems 20-55 cm tall. Stipules are 3-12 mm long and fused around the stem opposite of the petiole on the lowermost leaves, but mostly free on the upper leaves. Leaves are 6-15 cm long and pinnately compound with 9-19 lance-elliptic leaflets that are jointed to the rachis. The inflorescence is a raceme of 20-60 nodding flowers. The calyx is 8-11 mm long with a glabrous or sparsely white or black-hairy tube 4-6 mm long. Petals are white to cream-colored with a banner 12.5-16.5 mm long and a spotted keel. Fruiting pods are glabrous, drooping, and have a stipe-like base nearly as long as the calyx tube. At maturity, the pod is compressed trigonously, giving the fruit a 3-sided appearance, with each side flat or slightly concave but not deeply grooved. The body of the mature pod is 1-2 cm long and is less than 4 times as long as wide.



Above: *Astragalus racemosus* var. *treleasei* by Walter Fertig.

**Similar Species:** *Astragalus racemosus* var. *racemosus* and var. *longisetus* are Great Plains forms of this species with 17-31 leaflets per leaf and mature pods that are mostly 2-3 cm long and more than 4 times as long as wide. *A. bisulcatus* has purple or cream-colored flowers and dorsiventrally compressed fruiting pods with a deep groove down the middle of the lower side. *A. nelsonianus* has banners over 22.5 mm long, fruits that are two-sided and sharply angled on the margins, and leaflets confluent with the rachis.

**Flowering/Fruiting Period:** June-July/July to early August.

**Range:** Regional endemic of southwestern Wyoming and the Uinta Basin of northeastern Utah. In Wyoming, this species is known only from the Green River Basin and eastern foothills of the Wyoming Range in Sublette and Uinta counties.

**Habitat:** In Wyoming, var. *treleasei* is found on barren hills and washes of clay, shale, limestone, or sandstone at 6500-8200 feet. Rangelwide, this species often occurs on selenium-rich soils.

**Abundance and Trends:** Known from 11 extant and 1 historical occurrences in Wyoming following surveys in 2002 (Heidel 2002). Trends are not currently known.

**Management Status:** This species occurs on lands managed by the BLM Kemmerer and Pinedale field offices.

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***Rorippa calycina***

**Persistent-Sepal Yellowcress**

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**Status:**

US Fish & Wildlife Service: None (formerly a C2 candidate for listing under the Endangered Species Act).

Agency Status: WY BLM Sensitive.

Heritage Rank: G3/S2S3

**Description:** Persistent-sepal yellowcress is a rhizomatous perennial herb with stems 10-40 cm tall. The stems and foliage are pubescent throughout with stiff, unbranched hairs. Stem leaves are pinnately divided or wavy-lobed, sessile, and 2.5-5 cm long. The flowers are borne in terminal and axillary inflorescences and have 4 yellow petals 3-5 mm long and 4 sepals that persist in fruit. Fruits are ovoid to nearly globose, 2-4 mm long, and conspicuously pubescent with unbranched hairs that are broadest at the base. Styles in fruit are 1-2 mm long and glabrous.

**Similar Species:** *Rorippa sinuata* has elongate, glabrous fruits over 5 mm long, deciduous sepals, and round, glassy, ball-like hairs on the leaves. *R. curvipes* often has white petals, finely hairy sepals, deeply pinnate leaves and glabrous to sparsely hairy fruits and leaves. All other Wyoming species of *Rorippa* are taprooted annuals or biennials with longer, more erect stems and fruits that are either round or narrowly elongate. Seedlings of *Ambrosia tomentosa* have wider leaves with whitish undersides. Seedlings of annual *Potentilla* species have 3-5 round-lobed leaflets (Fertig and Welp 1998).

**Flowering/Fruiting Period:** Late May to August, although blooming may extend into October under favorable circumstances.

**Range:** *Rorippa calycina* is a regional endemic of south-central Montana, western North Dakota, and central Wyoming, with a disjunct population 2,500 miles to the north on the Arctic coast of Canada's Northwest Territories (Mulligan and Porsild 1966). In Wyoming, it is known from the Bighorn Basin, North Platte River drainage, and Great Divide, Green River, and Wind River basins in Albany, Big Horn, Carbon, Fremont, Park, Sweetwater, and Washakie counties.



Above: *Rorippa calycina* by Walter Fertig.

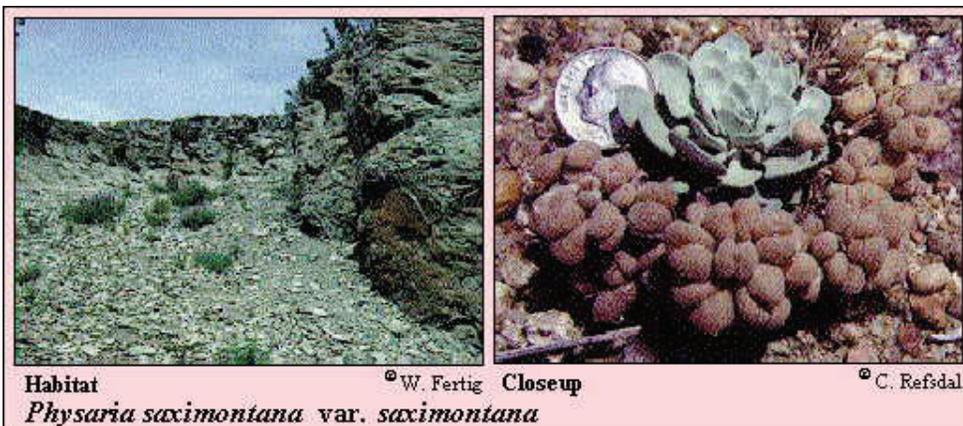
**Habitat:** Found primarily along moist sandy to muddy banks of streams, stock ponds, and man-made reservoirs near the high-water line at 3660-6800 feet. Most populations are in semi-disturbed or recently flooded openings in small inlets or bays with scattered clumps of *Hordeum jubatum*, *Poa secunda*, *Elymus smithii* and a variety of native or exotic early successional forbs. Occasionally, plants can also be found on grassy shores or in openings amid *Salix exigua* or *Tamarix chinensis* thickets.

**Abundance and Trends:** *R. calycina* is known from 24 occurrences (consisting of 70 subpopulations) in Wyoming, all of which have been observed since 1977. Fertig and Welp (1998) conservatively estimated the total state population at 15,000-25,000 plants based on surveys of 27 subpopulations in 1997. Long-term trend data are not available for most populations, but individual colonies appear to vary in size and area from year to year in response to flooding levels.

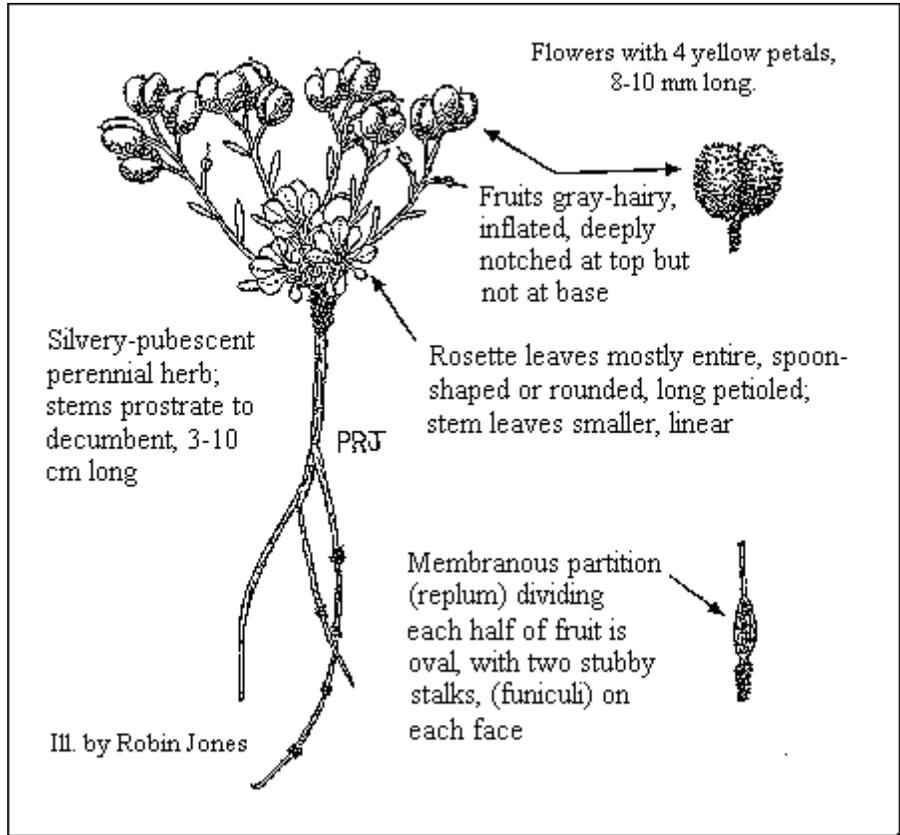
**Management Status:** *R. calycina* occurs on lands managed by Ashley National Forest (Flaming Gorge National Recreation Area), Bighorn Canyon National Recreation Area, Pathfinder National Wildlife Refuge, the BLM Cody, Lander, Rawlins, and Worland Field Offices and Wyoming state park lands at Boysen, Buffalo Bill, and Seminoe Reservoirs. At least 11 populations are on protected lands managed by The Nature Conservancy (Red Canyon Ranch), BLM Red Canyon ACEC, US Fish and Wildlife Service and WY state parks.

***Physaria saximontana* var. *saximontana***

**Rocky Mountain Twinpod**



- **Similar Species:** *P. didymocarpa* has 3 or more funiculi on each face of the partition and longer leaves. *P. acutifolia* has a linear partition and fruits equally lobed above and below.
- **Flowering/Fruiting Period:** May-June/June-August. Mature fruits required for positive identification.
- **Distribution:** Endemic to the Wind River and Bighorn basins of C Wyoming (Fremont and Hot Springs Cos.).
- **Habitat:** Sparsely-vegetated rocky slopes of limestone, sandstone, or clay. Elev. 5600-8300 ft.
- **References:** Dorn 1992 b; Fertile 1992 e; Jones 1989 b; Rollins 1984, 1993.

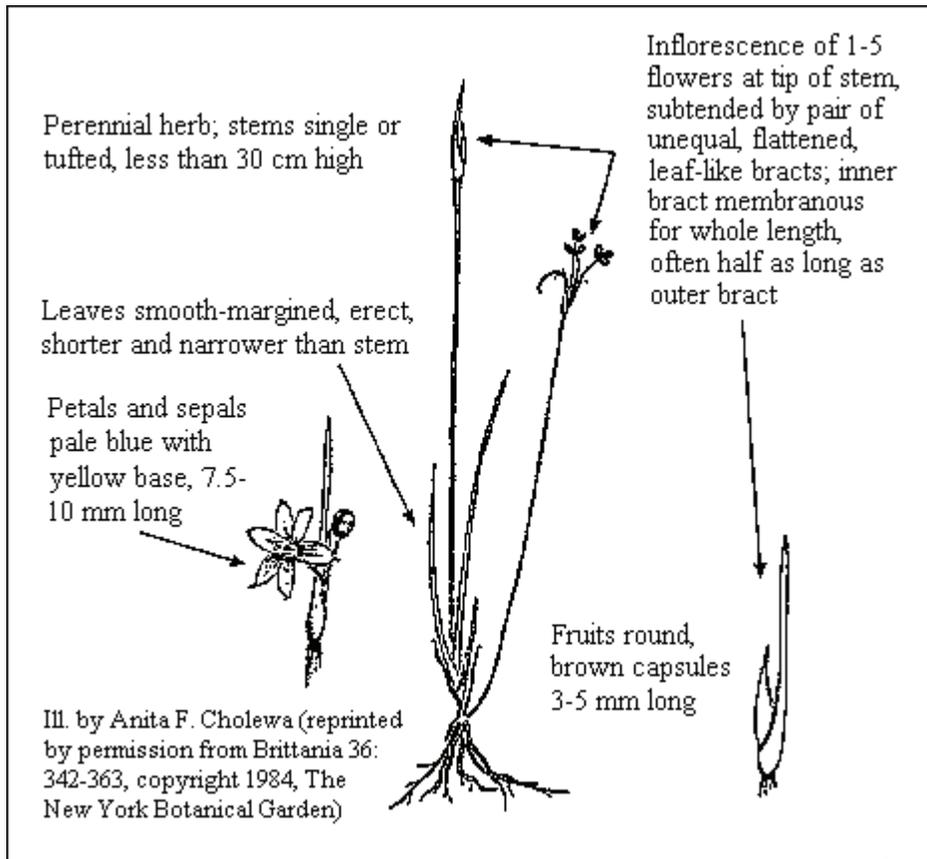


*Sisyrinchium pallidum*

Pale Blue-Eyed Grass



- **Similar Species:** *S. montanum* has dark blue-purple flowers and inner bracts lacking a membranous margin at their tips.
- **Flowering/Fruiting Period:** June-July/June-August.
- **Distribution:** Endemic to SE Wyoming (Albany and Carbon Cos.) and NC Colorado.
- **Habitat:** Wet meadows, stream banks, roadside ditches, and irrigated meadows. Elev. 7000-7900 ft.
- **References:** Cholewa and Henderson 1984; Hartman 1992.



## **Appendix D**

### **SCOPING COMMENTS**

The BLM released the Scoping Notice for the Hatfield 3D seismic survey on March 1, 2006. Ten comment letters were received in response to BLM's request for public input.

Comments were provided by the following individuals and organizations:

Ben Lamb, Wyoming Wildlife Federation & Michael Saul, National Wildlife Federation  
Bill Wichers, Wyoming Game and Fish Department  
Brian T. Kelly, U.S. Fish and Wildlife Service, Wyoming State Office, Cheyenne  
Eric Molvar, Biodiversity Conservation Alliance  
Ericka S. Cook, Petroleum Association of Wyoming  
Dave Welch, Oregon-California Trails Association  
Fred Nahwooksy, Comanche Tribe  
John V. Corra, Wyoming Department of Environmental Quality  
John Etchepare, Wyoming Department of Agriculture  
Neil B. Cloud, Southern Ute Tribe

Issues brought forth during the scoping period include:

- Threatened, endangered, and candidate species
- Raptors and Migratory birds
- Wetlands and riparian areas
- Sensitive species
- Historic trails
- Public participation
- Shothole and passive seismic alternatives
- Impacts to historic, cultural, and paleontological resources
- Wildlife
- Springs and aquifers
- Benefits of seismic operations to reduce unnecessary surface disturbance
- Socio-economics
- Cumulative effects
- Conflicts with hunting seasons
- Sensitive soils
- Noxious plants and non-native weeds
- Ground and water quality standards
- Elk and mule deer crucial winter range
- Sage grouse habitat
- Aquatic resources and fisheries
- Obtaining necessary state and local permits
- Livestock grazing and range improvements
- Cultural resources and Native American concerns

We appreciate all those who took time to comment.