

**FINDING OF NO SIGNIFICANT IMPACT
AND DECISION RECORD
EA-NM-060-2003-074**

DECISION: It is my decision to authorize the Notice Of Intent To Conduct Oil And Gas Geophysical Exploration Operations, for the Chavlea 3D geophysical project, submitted by Dawson Geophysical Company. The provisions for the approval of the NOI will include the attachment of the Roswell Field Office requirements as defined in the Terms and Conditions For Notice of Intent to Conduct Geophysical Exploration and the special mitigating measures developed in the environmental assessment that will be attached by addendum to the Terms and Conditions to conduct Geophysical Exploration.

I recommend that reclamation requirements be attached to the well abandonment, including additional requirements imperative for the complete reclamation of the disturbed areas. These actions are subject to 43 CFR 3150 regulations.

Authority for these actions is the Mineral Leasing Act of February 25, 1920, as amended.

These actions will affect public lands described as:

New Mexico Principal Meridian

Section 17 - SE $\frac{1}{4}$ SE $\frac{1}{4}$, 33 - NW $\frac{1}{4}$ SE $\frac{1}{4}$, T. 11 S., R. 35 E., Chaves County
Section 2 – W1/2E1/2, T. 12 S., R. 31 E., Chaves County
Section 6 - W1/2E1/2, 7 - W1/2E1/2, & 18 - W1/2E1/2, T. 12 S., R. 32 E., Lea County

FINDING OF NO SIGNIFICANT IMPACT: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, I have determined that impacts resulting from the proposed actions are not expected to be significant and an environmental impact statement is not required.

RATIONALE FOR DECISION: The proposed actions would not result in any undue or unnecessary environmental degradation. Portions of the subject lands and adjacent lands have been used for similar purposes and all present and potential uses and users have been considered.

COMPLIANCE AND MONITORING: The geophysical project and subsequent operational phases will be monitored as per regulations.

/s/Larry D. Bray

3/27/03

**Larry D. Bray, Assistant Field Manager,
Lands and Minerals**

Date

ENVIRONMENTAL ASSESSMENT
EA# NM-060-03-74

PROJECT NAME: Chavlea 3-D

BLM Serial #: NM-3150-2003-01

Section 17 - SE $\frac{1}{4}$ SE $\frac{1}{4}$, 33 - NW $\frac{1}{4}$ SE $\frac{1}{4}$, T. 11 S., R. 35 E., Chaves County

Section 2 – W1/2E1/2, T. 12 S., R. 31 E., Chaves County

Section 6 - W1/2E1/2, 7 - W1/2E1/2, & 18 - W1/2E1/2, T. 12 S., R. 32 E., Lea County
NMPM

GEOPHYSICAL OPERATOR: Dawson Geophysical Company

ACTION: Notice Of Intent to Conduct Oil and Gas Geophysical Exploration Operations

SURFACE ESTATE: Federal

I. Introduction

A. Need for the Proposed Action:

The prospective oil and gas operator needs additional, subsurface, geologic information to determine potential drilling locations for subsequent oil and/or gas drilling operations.

B. Conformance with Land Use Plan:

Oil and gas geophysical exploration is in conformance with the Roswell Approved Resource Management Plan and Record of Decision, October 1997.

C. Relationship to Statutes, Regulations, or other Plans:

Geophysical operations are authorized under existing regulations 43 CFR 3150. The proposed action does not conflict with any known State or local planning, ordinance or zoning.

II. Proposed Action and Alternatives

A. Proposed Action:

The proposed geophysical project would consist of gathering seismic data on Federal, State, and private surface lands where subsequent drilling could occur in the foreseeable future. The proposed geophysical project would be conducted in areas where past and present drilling operations have occurred. The geophysical operations would be performed by the vibroseis technique and the truck mounted method.

The proposed action would include:

The proposed geophysical project would consist of gathering seismic data on 80 square miles of federal, state, and private surface lands. The geophysical project would consist of vehicular traffic across country transit travel and would utilize all existing roads as much as possible. The proposed geophysical project would consist of an array of diagonal northeast-southwest oriented vibroseis source lines and an array of east-west detector (geophone) lines. The geophysical project would be performed by typical geophysical, vibrator buggies (thumper trucks - 50,000 lbs., 10' wide X 32' long), combined with hand crews on foot and/or with the use of four-wheel drive pickup trucks and ATV's to lay out the detector (geophone) lines.

A modification to the original NOS was made after coordination between Rand French (Wildlife Biologist), Bill Marley (Private Landowner), and Charlie Reed of Dawson Geophysical. The modification was due to the need to protect lesser prairie chicken habitat and issues dealing with the LPC timing stipulation. It was agreed to by all parties that the BLM surface located in T. 10S. R 30 E. Section 25 S1/2, Section 35 E1/2, and private lands located in T. 10S. R 30 E. Section 26 SW1/4 and Section 36 would be removed from the project proposal entirely.

B. Alternatives:

1. Relocate the Proposed Action:

While moving a proposed project to an alternative location to avoid a particular conflict, is normally a valid alternative, it is being exempted from further analysis for this project for the following reasons:

- a. It is not possible to predict where the new project location would be. Alternate alignments would have to be negotiated between the BLM, the surface landowners, and the prospective oil and gas operator to achieve a mutually acceptable location that would avoid a given environmental concern but still provide the opportunity of attaining subsurface information.
- b. Preliminary reviews of the proposed geophysical project did not indicate any areas of concern that would necessitate relocation of the project. The concerns that do occur are analyzed later in this document and could be satisfactorily mitigated through the application of an addendum to the standard Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration (Form 3150-4a) and by adding the requirements that would lessen environmental concerns.
- c. The operator can sustain minor deviations of individual lines or skips in the data collection lines. Such diversions and skips are typically sufficient to avoid most areas of environmental concern. Under most data collection activities, breaks or skips in individual lines would be required to avoid damaging crucial or sensitive environments and/or man-made improvements. Examples of protection areas would include archaeological sites, riparian areas, springs, water or oil/gas wells, excessive slopes, and karst topography.

2. No Action:

Under this alternative, the application would be rejected. None of the environmental impacts associated with the proposed action or alternate location would occur. Additionally, economic benefits of the proposed action would not be realized, and the existing environment, including the developments in place, would remain unchanged.

III. Description of the Affected Environment

A. General Setting:

The proposed geophysical project would be conducted on federal and private surface, about 38 miles East of Roswell, N.M.. Historical and present use of the subject lands have been limited to livestock grazing bird watching, hunting, and energy development.

B. Rights of Record:

An inspection of the Master Title Plats and other Bureau records revealed the following title information pertaining to valid existing prior rights on the subject lands:

- Oil and gas leases: - N/A
- No federally administered rights-of-way would be affected in the project area.
- No mining claims are recorded within project area.

C. Affected Resources:

The following critical resources have been evaluated and are either not present or are not affected by the proposed action or the alternatives in this EA:

Areas of Critical Environmental Concern (ACEC's)
Farmlands, Prime/Unique
Floodplains
Native American Religious Concerns
Threatened or Endangered Species (Plants & Animals)
Wastes, Hazardous/Solid
Wetlands and Riparian Zones
Wild & Scenic Rivers
Wilderness

1. Air Quality:

The area of the proposed action is considered a Class II air quality area. A Class II area allows a moderate amount air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed substratum soils and exhaust emissions from motorized equipment.

2. Soils:

The *Soil Survey of Chaves County, New Mexico, Southern Part (USDA Soil Conservation Service 1980)* was used to describe and analyze impacts to soils from the proposed action. The soil map units represented in the project area are:

Kimbrough-Sharvana complex, 1 to 3 percent slopes (Ks) Runoff of the unit soil is medium and the hazard of water erosion is slight and the hazard of soil blowing is moderate.

3. Vegetation:

The native vegetation in the area is composed of mainly grasses, shrubs, and forbs, such as, little bluestem, sideoats grama, sand bluestem, yellow indiangrass, switchgrass, sand dropseed, black grama, hairy grama, blue grama, sand sagebrush, small soapweed, mesquite and shinnery oak. The vegetation in the areas of the proposed action would be affected when the vegetation is trampled by the buggy (thumper) trucks.

4. Invasive & Noxious Weeds:

There are no known populations of invasive or noxious weed species on the proposed geophysical project.

Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Noxious weeds affect native plant species by out-competing native vegetation for light, water and soil nutrients. Noxious weeds cause estimated losses to producers \$2 to \$3 billion annually. These losses are attributed to: (1) Decreased quality of agricultural products due to high levels of competition from noxious weeds; (2) decreased quantity of agricultural products due to noxious weed infestations; and (3) costs to control and/or prevent the noxious weeds.

Further, noxious weeds can negatively affect livestock and dairy producers by making forage either unpalatable or toxic to livestock, thus decreasing livestock productivity and potentially increasing producers' feed costs and animal health care costs. Increased costs to operators are eventually borne by consumers.

Noxious weeds also affect recreational uses, and reduces realty values of both the directly influenced properties and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs. Monies would be made available for these activities from the federal government, generated from the federal tax base. Therefore, all citizens and tax payers of the United States are directly affected when noxious weed control prevention is not exercised.

5. Ground Water Quality:

The geophysical operations will have no affect on the ground water.

6. Wildlife:

Wildlife species utilizing this area for habitat include mule deer, pronghorn antelope, coyote, fox, bobcat, rabbits, kangaroo rats, pocket gophers, herptile species, as well as a variety of songbirds, dove, quail, and raptors.

There are no known threatened or endangered species of plant or animals within the project area. A list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2). There are no designated critical habitat areas within this allotment. The swift fox is a Federal Candidate species that may occupy or utilize the area; refer to the Biological Opinion (AP11-38) in the Roswell RMP for a detailed description of the range, habitats and potential threats.

The mountain plover has been recently proposed for listing as an Endangered Species. It is associated with shortgrass and shrub-steep landscapes throughout its breeding and wintering range. Historically, on the breeding range, it occurred on nearly denuded prairie dog towns and in areas of major bison concentration. The mountain plover are considered to be strongly associated with sites of heaviest grazing pressure, to the point of excessive surface disturbance. Short vegetation, bare ground, and a flat topography are now recognized as habitat-defining characteristics at both breeding and wintering locales. The federal candidate black-tailed prairie is also known to occur within the grassland area. However, no localized prairie dog towns are located on public land within the actual project construction site. There is a active colony on private land located in T.11., R. 31 E., Section 11.

There will be no impact to the lesser prairie chicken since those lands containing its habitat have been removed from the project.

7. Range: The source and detector lines are located on multiple BLM grazing allotments. The allotments involved are BLM grazing allotment numbers 65052, 65063, 65064, and 65066. All of these allotments are administered from the Roswell Field Office. The operators of the allotments are as follows:

Allotment #65052	Marley Ranches Ltd., P.O. Box 1658, Roswell, NM 88202
Allotment #65063	Roy F. Pearce Jr., 1717 Jackson, Pecos, TX 79772
Allotment #65064	Bill Lee, West Star Rt. Box 465, Lovington, NM 88260
Allotment #65066	W.T. and Roberta Tivis Jr., P.O. Box 1614, Eunice NM 88231

8. Visual Resources:

The geophysical project lands are located within a designated VRM Class IV area. The setting presents a green setting in warm months due to the mesquite population within the area. In winter, without foliage, the area is a gray to gray-green color pattern. Mesquite is very important in this setting because its form, line and texture protects the area viewshed by vegetative screening of lane impacts from the 3-D seismograph proposal for the area.

9. Recreation:

The area around the proposed action is primarily used by recreational visitors engaged in hunting, driving for pleasure off-highway vehicle driving, and caving. Other visitors include oil and gas industrial workers and ranchers.

10. Cave/Karst:

No surface cave/karst features were observed in the immediate vicinity of the proposed actions. However, the proposed actions are located in a medium karst potential area.

11. Minority or Low-income Populations or Communities: The proposed actions would not affect the minority or low-income populations or communities.

12. Cultural Resources: Archeological and historic sites could be impacted by this undertaking but the Rule of Reason applied to determining cultural survey requirements acknowledges that the Public land portion is minimal and could be left out of the undertaking. Previously identified sites could be impacted by vehicular traffic.

IV. ENVIRONMENTAL IMPACTS

A. Proposed Action Impacts:

The geophysical project is considered casual use and no surface disturbance would be involved in the performance of this project.

1. Air Quality:

Air quality would temporary be impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used on the geophysical project. Dust dissemination would discontinue upon completion of the geophysical project. Air pollution from the motorized equipment would also discontinue upon completion of the geophysical project. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced when the geophysical project is completed.

2. Soils:

No earthmoving operations will be permitted on the project areas. The exposed soils created from buggy (thumper) vibration 4 X 8 steel plates and by truck tires would be susceptible to wind blowing and water erosion. No more than one traverse of each seismic line by each thumper truck would minimize this impact. The impact to the soils would be remedied when vegetation re-establishes itself, either naturally or by seeding the damaged areas created by vehicles conducting geophysical exploration operations.

Additional soil impacts could be anticipated when heavy precipitation causes water erosion damage on seismic source line routes. Water saturated segment(s) on the source line routes could become impassable and unauthorized drive-arounds may occur outside the designated source line corridors. Absolute minimum number of trips necessary to complete each seismic line would alleviate potential impacts from water erosion damage during times of heavy precipitation. And no seismic activity would be allowed during intervals of heavy precipitation would minimize this impact.

3. Vegetation:

No vegetation would be removed from the project areas. If geophysical source lines remain unvegetated, because of thumper truck damaged areas, the reclamation efforts would immediately follow upon completion of the geophysical project. Vegetation impacts would be short-term when the geophysical project is completed and no other vehicles are driven over the geophysical source lines. Successive oil and gas development could subsequently occur at which time mitigation measures ensuring the establishment of vegetation would be done on a case by case basis.

4. Invasive & Noxious Weeds:

The geophysical project may unintentionally contribute to the establishment and spread of noxious weeds. Noxious weed seeds could be carried onto the project areas by buggies (thumper trucks) or other transport vehicles that are used during the geophysical project. The main mechanism for seed dispersion on public lands is by equipment and vehicles that were previously used and or driven across or through noxious weed infested areas. The potential for the dissemination of invasive and noxious weed seeds may be elevated by the use of equipment typically contracted out to companies that may be from other geographic areas in the region. Washing and decontaminating the equipment prior to transporting the equipment onto the geophysical areas would minimize this impact.

Impacts by noxious weeds will be minimized due to requirements for the company to eradicate the weeds upon discovery. Multiple applications may be required to effectively control the identified populations.

5. Ground Water Quality:

The geophysical operations will not impact the ground water.

6. Wildlife:

Some small wildlife species may be killed and their dens or nests destroyed during buggies (thumper trucks) traveling across country during geophysical operations. The short term negative impact to wildlife that would occur from the geophysical operation is anticipated from the vehicular noise levels and temporary provisional habitat destruction. Most wildlife species with a low tolerance during geophysical operations would be displaced from the area due to ongoing disturbances, such as, constant geophysical vehicular traffic. Upon completion of the geophysical project, the previous levels of wildlife would return to the area.

A complete discussion on impacts to the swift fox can be found in the appendix of the Roswell RMP. No negative impacts to Black-tailed prairie dogs are anticipated. A colony is located on private land, but this action does not give this office any authority on private lands. Surveys have been conducted in New Mexico for the mountain plover by Lawry Sager in 1995, for the New Mexico Department of Game and Fish (Sager, 1996). No breeding populations were found south of the 34° North Latitude which generally follows the Chaves/DeBaca County line on the north end of the Roswell Field Office area. However, no birds were reported in either DeBaca or Chaves Countys; only one observation was reported in Lincoln County (near Lon). In addition, mountain plover surveys were conducted in 1998 at BLM selected sites by New Mexico Natural Heritage Program (DeLay & Johnson, 1998). No mountain plovers were observed at the sites. In the proposed rule to list the species, mineral development was listed as a potential threat to this species. "Roads present a direct hazard for a variety of reasons. Mountain plovers nest on nearly level ground (often near roads), adults and chicks often feed on or near roads, and roads may be used as travel corridors by mountain plovers, all of which make plovers susceptible to being killed by vehicles. Chicks and adults are vulnerable to stress caused by human disturbance, and chicks require shading by adults to avoid heat. Because adults may abandon chicks during distraction displays, any human activity that elicits distraction displays is likely to increase the vulnerability of chicks to stress. Thus, development of oil and gas resources could adversely affect mountain plover habitat or cause the death of individuals". However, since the area is not occupied by breeding populations, there is no impact to the young or adults at this time. Habitat may become fragmented with the development of oil and gas facilities as a result of geophysical

exploration, but due to the limited amount of federal surface no impacts should result from this proposed action.

7. Range: There would be some minor disruption of livestock grazing on grazing allotments. The equipment will have to cross multiple boundary and pasture fences. Coordination with the grazing permittee's will lessen this impact, but the possibility of livestock moving into different pastures exist. If the geophysical company promptly closes all gates and repairs all cut fences this will not occur. Vehicle traffic would increase in the area which may lead to conflicts with livestock.

8. Visual Resources:

The proposed 3-D seismograph proposal may provide a geometrically strong horizontal visual contrast in form and line to the characteristic landscape and vegetation, which have flat, horizontal to slightly rolling form and line and may be seen from key observation points within the area. The proposed action is located in an area designated VRM Class IV.

The objective of Class IV is to: "Provide for management activities which require major modification of the existing landscape character...Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements."

In order to keep the form, line, color and texture of the area the existing vegetation should be left in place. Mesquite acts as the dominant screening aspect for potential visual intrusion within the area. 3-D seismograph survey vehicles should be allowed to run over the existing vegetation such as mesquite. Within two growing seasons the mesquite will recover from the temporary vehicle impact and screen any adverse visual impacts resulting from the 3-D seismograph survey. Cumulative adverse visual impacts can be avoided by leaving a healthy stand of mesquite to screen the actions of this proposal.

9. Recreation:

The use of existing access roads/ways would slightly modify the existing visual resources of the area. After two growing seasons the existing vegetation types within the seismograph project viewshed should return to the form, line, color, and texture of the existing landscape. By vibraseising over the existing mesquite and leaving the existing living plants in place the mesquite will regrow and form a vegetative barrier to off highway vehicles. After two growing seasons the existing access roads and drive-arounds would blend in with the existing environment within the VRM Class IV designation.

10. Cave/Karst:

There would be no impact to cave entrances or karst features within the areas of the proposed actions.

11. Minority or Low-income Populations or Communities: The proposed actions would not impact the minority or low-income populations or communities.

12. Cultural Resources: Cultural sites could be damaged by driving through them. Damage can be avoided by following vehicular reroutes around two previously recorded sites on NM State land and private land in the project area. Additionally, no vehicular traffic will be allowed on Public land since

no cultural survey to identify sites is being required. Hand carrying materials on Public land will be allowed as well as hand carrying materials through the previously recorded sites.

B. Alternatives:

1. Relocation Alternative:

The alternative of changing the location involved in this action was not analyzed further because no other alternative location would have significantly fewer impacts than, or have a clear advantage over, the proposed location.

2. No Action Alternative:

The no action alternative would constitute denial of the application. This alternative would have no consequential results from the identified environmental impacts. There would, however, be an adverse economic impact to the applicant through the denial of the lessee's right to gather data on mineral reserves or through increased costs of accessing those mineral reserves through other means. There have been no significant or unmitigatable impacts identified as a result of this analysis which would warrant selection of the no action alternative.

C. Mitigation:

The Roswell Field Office; Terms and Conditions For Notice of Intent to Conduct Geophysical Exploration and the special addendum requirements derived from this EA, would be applied to this proposed action to minimize the surface disturbance and conserve the surrounding landscape.

The following are mitigating measures to offset the environmental impacts from the proposed action:

Addendum Stipulations:

2. Two archaeological sites shall be identified in the field prior to commencement of any geophysical operations. The two archaeological sites shall be avoided from any type of vehicular travel across the sites. The operator shall avoid driving over the two archaeological sites.
3. A playa in T. 12 S., R. 32 E., Section 7 shall be avoided from any type of vehicular travel crossing the playa. The operator shall avoid driving over the playa area. The operator shall not allow vehicular travel (including 4 wheel ATV's, pickup trucks and vibroseis thumper trucks), and vibroseis operations within 300 feet of the outer boundary of the playa located in T. 12 S., R. 32 E., Section 7. Surface disturbance will not be allowed within the playa and within 300 feet of the outer boundary of the playa.
4. No vibroseis operations shall be conducted on cliffs in excess of 35% slopes. Laying geophones by hand carrying onto the slopes is OK.
5. No trucks, ATVs, or thumper trucks shall be driven across federal surface lands. Geophysical equipment such as geophone lines and cables shall be walked onto federal surface lands and carried out of federal surface lands without the use of vehicles.

D. Cumulative Impacts:

While it is likely that there will be no significant cumulative impact from the proposed action, subsequent oil and gas development, and other surface-disturbing activities in this area, may potentially have negative cumulative impacts on vegetation, soil, water, livestock, wildlife, and visual resources.

V. **Consultation and Coordination**

No onsite inspection was conducted on the project area . Coordination and consultation has occurred with the Dawson Geophysical Company, agent Mr. Charlie Reed, 1-800-332-9765. The comments and suggestions expressed have been incorporated into this EA.

Coordination and consultation has occurred with Roswell Field Office's Staff. The comments and suggestions expressed during the review of the proposed action and environmental assessment have been incorporated into this EA. Coordination and consultation has occurred with Carlsbad Office's Wildlife Biologist, John Sherman and Archaeologist, Tiffany Sullivan.

Reviewed by:
Irene M. Gonzales

03/07/03

Irene M. Gonzales , Realty Specialist

Date

Chavlea 3-D Geophysical Project NM-3150-2003-1

Addendum Stipulations:

1. No vibroseis operations shall be conducted in T. 10 S., R. 30 E., Section 25, 26, 35, & 36. It was agreed to by all parties that the BLM surface located in T. 10 S., R 30 E., Section 25 S1/2, Section 35 E1/2, and private lands located in T. 10S. R 30 E., Section 26 SW1/4 and Section 36 would be removed from the project proposal entirely.
2. Two (2) archaeological sites shall be identified in the field prior to commencement of any geophysical operations. The two archaeological sites shall be avoided from any type of vehicular travel across the sites. The operator shall avoid driving over the two archaeological sites.
3. A playa in T. 12 S., R. 32 E., Section 7 shall be avoided from any type of vehicular travel crossing the playa. The operator shall avoid driving over the playa area. The operator shall not allow vehicular travel (including 4 wheel ATV's, pickup trucks, and vibroseis thumper trucks), and vibroseis operations within 300 feet of the outer boundary of the playa located in T. 12 S., R. 32 E., Section 7. Surface disturbance will not be allowed within the playa and within 300 feet of the outer boundary of the playa.
4. No vibroseis operations shall be conducted on cliffs in excess of 35% slopes. Laying geophones by hand carrying onto the slopes is OK. No vehicular travel shall be allowed on cliffs in excess of 35% slopes.
5. No trucks, ATVs, or thumper trucks shall be driven across federal surface lands. Geophysical equipment such as geophone lines and cables shall be walked onto federal surface lands and carried out of federal surface lands without the use of vehicles.
6. Coordinate with area grazing permittees to ensure no accidental livestock movement. Close all gates and promptly repair all fences that may be damaged due this project, to keep livestock in current locations.