U.S. Department of the Interior
Bureau of Land Management

Rock Springs Field Office

ENVIRONMENTAL ASSESSMENT

WY-040-EA04-174

Veritas DGC Land, INC.

West Flank (Wild Bunch) 3-D VIBROSEIS PROJECT

September 29, 2004

BLM Case No. WY-040-OG04-05
State Case No. 3704024

1350 (040)
Veritas DGC Land, Inc.
West Flank (Wild Bunch) 3D Project

September 29, 2004

Dear Reader:

Attached you will find the Decision Record, Finding of No Significant Impact, and the Environmental Assessment for Veritas DGC Land, Inc.'s West Flank 3D Vibroseis project located in Sweetwater County, Wyoming.

The documents can be linked from the Rock Springs website. The address is http://www.wy.blm.gov/rsfo/index.htm.

A limited number of copies are available at the Rock Springs Field office. Please call Shelly Devoss at 307-352-0213 to request copies or for questions about the project.

Sincerely,

/s/ Michael R. Holbert

Michael R. Holbert
Field Manager

Attachment

Veritas DGC Land, INC.
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INTRODUCTION

On 6/2/2004, Veritas DGC Land, Inc. (Veritas) filed a Notice of Intent (NOI), assigned serial number WY-040-OG04-05, with the Bureau of Land Management (BLM) Rock Springs Field Office (RSFO) to conduct a vibroseis 3-D geophysical project, known as the West Flank (Wild Bunch) 3-D Vibroseis Project, covering 211 square miles in Sweetwater County, Wyoming. The NOI was determined to be complete on 7/7/04. Veritas' NOI and their Plan of Operation contain a complete description of the geophysical project. The NOI and Plan of Operation are considered an integral part of this environmental assessment and are incorporated by reference. These documents are filed with this EA.

The West Flank project area overlies 135,040 acres. Approximately 38% of the project area is public land managed by the BLM, about 1.9% are lands managed by the State of Wyoming, and the remaining lands are privately owned, as reflected in Map 1. A 7.5' scale map of the proposed project area showing the proposed locations of source and receiver points can be found at the RSFO.

Township and Range	Section
T. 21 N., R. 105 W.	3,10,15,22,27,34 (2D line)
T. 20 N., R. 106 W.	1-36
T. 20 N., R. 105 W.	1-36
T. 20 N., R. 104 W.	3-10, 15-22, 27-34
T. 19 N., R. 106W.	1-36
T. 19 N., R. 105 W.	1-24, 28-32
T. 19 N., R. 104 W.	3-10, 15-22
T. 19 N., R. 103 W.	7,8,9,10,11 (2D line)
T. 18 N., R. 106 W.	1-18, 23, 24
T. 18 N., R. 105 W.	5-8, 17-20

Need for the Proposed Action

The proposed action is needed to acquire and evaluate subsurface geological data for possible exploration and/or development of oil and gas reserves. Geophysical exploration utilizing 3D techniques is an intensive data acquisition and computer synthesis system used to analyze and three dimensionally depict subsurface geology/stratigraphy. The technique is capable of locating and displaying unknown subsurface pools or pockets that potentially contain producible hydrocarbons. All federal minerals within the proposal area have been leased for oil and gas development or are available for lease (Map 12, Green River Resource Management Plan; p. 12.). The proposed project should enable wells to be drilled with a much greater probability of locating producible hydrocarbons than is normally attainable by utilizing previous methods such as two dimensional (2D) seismic data and wildcat wells. Completion of the project should result in fewer non-productive wells, or dry holes, being drilled in an area, and therefore, overall less surface disturbance from access road, pipeline, and drill sites.

Conformance with Applicable Land Use Plans

The Proposed Action is subject to the Green River Resource Management Plan (GRRMP), approved August 8, 1997. The RSFO, as required by 43 CFR 1610.5, has determined that the Proposed Action is in conformance with the decisions, guidelines, terms and conditions of the RMP. This environmental assessment was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended. Authority for the Proposed Action and alternatives is contained in the Mineral Leasing Act of 1920 as amended, and in the Code of Federal Regulations at 43 CFR 3150.

The development of this project would not affect the achievement of the Wyoming Standards for Healthy Rangelands (August 1997).

DESCRIPTION OF THE ALTERNATIVES

Proposed Action

Surveying and staking of the seismic project has been completed (this activity is considered a casual use, though the operator will typically consult with the BLM prior to surveying and staking). The survey and staking was completed with GPS units and maps, and resulted in the placement of lathe, flagging, and pin flags. During this pre-project planning activity, the operator seeks to avoid steep slopes, wetlands and riparian areas, existing rangeland and oil & gas infrastructures, and other hazards that may be present. The operator would be required to stay at least 500 feet distant from riparian areas, wetlands, or surface waters. Subsequent to the surveying and staking, a Class III cultural resources inventory would be conducted along the proposed routes for motorized equipment (vibroseis buggy paths along source lines, access within the project area, etc.). The Class III cultural resources inventory is summarized in a report, which is submitted to the BLM for review and consideration. This review ensures compliance with the various BLM policies, the programmatic agreement between the State Historic Preservation Office (SHPO) and the BLM, the laws, rules and regulations regarding the protection of cultural resources. The surveyor would coordinate with the archeologists to ensure that successful avoidance of identified cultural resources in incorporated into the proposed action.

Forty- eight receiver lines would be aligned in an east/west direction across the project area, spaced 1,760 feet apart. Along these lines, receiver/geophone points would be present every 220 feet.

Fifty-eight diagonal source lines would be aligned generally in a northeast-southwest direction across the project area. Source lines would be spaced 1,760 feet apart effectively. Along these lines, source points would be stationed every 200 feet (effectively). Occasional source points would be staked in offset positions to avoid rough terrain, existing facilities, or other areas of concern such as steep slopes and archaeological sites. Any change in direction of the drive path along source lines would be marked by orange flagged lath. All laths would be marked with reflective tape for improved visibility during nighttime operations.

Buggy mounted drills would begin work on the prospect approximately 30 days prior to the data acquisition to prepare source points on steeper slopes. 231 holes are expected to be drilled with this type of drill. Heli- portable drills will follow to complete the remaining 275 holes.

During the data acquisition phase of the project, 3D geophysical data will be recorded with specialized equipment including cables, geophones, one truck-mounted recording or transcribing unit (the recorder or transcriber), and buggy-mounted vibroseis vehicles (buggy vibes). Shot holes will be detonated where necessary, and immediately plugged according to WOGCC standards.

A helicopter will be used to transport receiver equipment along receiver lines. Caches of cables, data collectors, batteries, and geophones will be placed along receiver lines, normally at six geophone station intervals (every 1,400 feet) or closer when necessary. Equipment unpacking and layout, geophone placement and cable connection work, and equipment bundling for helicopter pick-up would be accomplished by crews of pedestrian workers who will alternately layout and pick-up as needed. Cable deployment and other field operations generally would be performed during daylight hours.

Veritas will place staging areas and the helicopter landing zone on private surface estate.

Four buggy vibes will be used to create energy source at each source point. Any source line would be traversed only once by the buggy vibe. In working their way through the project area, the vibe buggies would proceed side-by-side along source lines. Two buggy vibes would be located on each side of the flagged centerline. The units will create an energy source (vibe) of six sweeps at each source point. The West Flank 3D project includes a planned total of 7,828 source points. Buggy vibes will follow GPS and flagged travel routes to move from one source line to another. Recording activities will be performed 24 hours per day, except in areas of rough terrain where work will be limited to daylight hours for safety reasons.

The buggy vibes are 12-feet 6-inches high, 35-feet 6-inches long, and 11-feet 6-inches wide. They weigh 65,000 pounds each and are equipped with 48-inch (3.6 feet) wide, low-pressure tires which give them a ground pressure of nine PSI. This configuration provides for optimum traction (minimal spinning) while minimizing soil compaction,

resulting in reduced potential for two-track roads being formed. Vibrator pads measuring 4.5 feet x 7.5 feet are centered under the vehicle. Refueling of buggy vibes would be at existing roads and trails only, and away from any live water areas.

Receiver lines will be repaired or troubleshot as needed via use of ATVs. The ATVs are typical one-passenger four-wheelers with 9-inch (0.7 foot) wide tires.

The project clean-up phase will proceed concurrently with the recording phase. Pin flags, lath, ribbon flagging and trash will be collected daily as the recording crew works through the project area. These materials will be deposited at a Wyoming Department of Environmental Quality approved disposal site.

Survey/staking of the proposed project began in the summer of 2004. Archeological inventory of BLM portions of the project will follow the surveyors. Geophysical recording is scheduled to commence November 1, 2004 (tentative), and should be complete by approximately December 15, 2004, dependent upon limitations of activity in winter range. Recording operations are anticipated to start in the northwest and proceed to the southeast of the project area.

Applicable permits would be acquired from the BLM, State of Wyoming Oil & Gas Conservation Commission, Sweetwater county and appropriate surface owners.

No Action Alternative

Under the No Action alternative, the vibroseis project would not be authorized on BLM-administered lands. Operations could still occur on state and private lands. Considering that BLM-administered lands comprise 38% of the West Flank 3D, adoption of this alternative would effectively result in cancellation of the project. Existing land and resource use activities within the project area would continue generally as is. The Affected Environment descriptions presented in this EA also constitute the effects of the No Action alternative unless otherwise noted.

Alternatives Considered but Dropped From Detailed Study

No unresolved resource conflicts were identified that necessitated development of additional alternatives, although three alternatives were considered, but eliminated from further consideration:

Exploratory Drilling Alternative – This alternative was considered but dropped from detailed study since it is recognized that wildcat exploratory drilling would be a consequence of the No Action alternative.

Buggy- Mounted Shot- Hole Method- Under this alternative, drills mounted on buggies would traverse the project area to drill shot holes for seismic exploration. Two buggies (one with the drill and one to hold drilling water) would traverse routes along source lines. Multiple passes over routes would be necessary for the transport of water. Soil and vegetation impacts along survey routes would be more apparent from the buggy traffic. The cost of this alternative method would be approximately 50% greater than the proposed action alternative. This method is combined with two other methods in the Proposed Action, producing an alternative which is both economically feasible and ecologically sound.

Winter Operations Alternative- This alternative would allow actions through the winter season. It is believed that multiple resource impacts may be reduced by allowing geophysical operations to occur when the ground is frozen. However, there is conflict with winter range habitat in this area. BLM's memorandum of understanding (MOU) with the Wyoming Game and Fish Department precludes this alternative. All activities shall follow the protocol outlined in the MOU for obtaining exceptions for activities in winter range. The severity of the weather conditions, locations of the animal herds, and well being of the herds is unknown and fluid. These issues halt further consideration of this alternative.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The geographic area affected by the Proposed Action is delineated in the project location description and map.

Critical elements and other resources potentially affected by the Proposed Action are described in this portion of the EA. This section also provides an analysis of impacts/potential environmental consequences resulting from project implementation, and presents the expected impacts/ environmental consequences of the No Action

alternative. Finally, this section of the EA presents mitigation measures developed in response to the anticipated impacts, in conformance with the RMP that would be applied to the project if approved.

Critical elements of the human environment (identified by the BLM NEPA Handbook H-1790-1 and subsequent Executive Orders), their status in the project area, and whether they would be affected by the proposed project are listed on Table 1.

TABLE 1 - Critical Elements of the Human Environment

Element	Status on the West Flank (Wild Bunch) 3D	Addressed in EA
Air quality	Not affected	No
Areas of critical environmental concern	None present	No
Cultural resources	Potentially affected	Yes
Environmental justice	Not affected	No
Farmlands, prime or unique	None present	No
Floodplains	None present	No
Native American religious concerns	Potentially Affected	Yes
Noxious/invasive plants	Potentially affected	Yes
Threatened and endangered species	Potentially affected	Yes
Wastes (hazardous or solid)	Potentially affected	Yes
Water quality (surface and ground water)	Potentially affected	Yes
Wetlands/riparian zones	Potentially affected	Yes
Wild and scenic rivers	None present	No
Wilderness	None present	No

Other resource values potentially affected by the Proposed Action include the following resources: minerals, paleontology, soils, vegetation, wild horses, wildlife, visual resources, recreation, socio-economics, noise and safety, and cumulative impacts.

OIL & GAS (AND OTHER) FACILITIES/FLUID MINERALS

Affected Environment

Oil and gas exploration and production is in a discovery mode within the West Flank (Wild Bunch) 3D project area. Very little drilling is occurring in the area. A total of 28 wells are present within the project boundary. Eighteen of these are plugged and abandoned, seven are producing, two are shut in, and one is confidential. (Wyoming Oil & Gas Conservation Commission records available via the internet at http://wogcc.state.wy.us). Vibroseis projects do not affect reservoir production/drainage.

Environmental Consequences of the Proposed Action

Adoption of the Proposed Action would allow project participants to obtain and utilize 3D geophysical data, resulting in the greater likelihood of drilling producing wells, more efficient field development, and would be consistent with the National Energy Policy.

Vibroseis operations near existing oil/gas wells, buried pipelines, buried telephone cables, or overhead power lines could cause transmission interference. With implementation of the safe distance prescriptions below, no significant impact to oil and gas related facilities is foreseen. Should unanticipated damage to existing facilities occur, Veritas would be required to repair any damage (also see approval conditions for other resources).

Environmental Consequences of No Action

Adoption of the No Action alternative is likely to result in the drilling of more wildcat exploratory wells and possibly 'dry holes' than would occur following completion of the proposed geophysical project. Dry holes, in addition to being a financial waste, would result in unnecessary and undue surface disturbance caused by construction of well pads and roads.

Approval Conditions to be Applied

Vibroseis source points should be located a minimum of 300 feet from standing structures unless written permission to encroach closer has been given by the land owner or operator (BLM H-3150-1 Handbook).

Veritas should be required to repair any damage to facilities caused by their operations.

PALEONTOLOGICAL RESOURCES

Affected Environment/No Action Alternative

Petrified wood fragments may be anticipated on the ground surface but potential for fossils of scientific interest on the ground surface is relatively low. A BLM database search for known paleontological sites was performed for the West Flank (Wild Bunch) 3D project area with four sites identified, two of which are on privately owned lands.

Environmental Consequences of the Proposed Action

The proposed project would have no effect on the paleontological values in the area due to avoidance, depth of burial, limited outcrop exposure, and vegetative cover. This assessment is made based upon research conducted by the University of Colorado and professional analysis by Dale Hanson, BLM Wyoming State Office and constitutes a site-specific analysis for this project (p. 6, GRRMP).

Yet-unidentified fossils of scientific interest exposed on sensitive surfaces could be destroyed or damaged by vehicle traffic. With the implementation of the spread-out vehicle pattern (see approval conditions for visual resources) and the slope restrictions (see approval conditions for soils), impacts to paleontological resources are anticipated to be negligible. The standard discovery stipulation would apply.

Approval Conditions to be Applied

Known localities of paleontological resources should be avoided by a minimum of 50 feet.

If vertebrate paleontological resources (fossils) are discovered on BLM-administered land during project operations, Veritas should suspend operations that could disturb the materials, and immediately contact the BLM Rock Springs 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 (p. 6, GRRMP). Any mitigation would be developed in consultation with Veritas, 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.

SOILS

Affected Environment/No Action Alternative

Soils of the West Flank (Wild Bunch) 3D area fall within five groups. These soils are well drained sandy loam and rock. Some include badlands, or floodplains and alluvial fans. Some soils are strongly saline or alkaline. Overall,

soils in the West Flank (Wild Bunch) 3D are not considered unstable (p.583, GRRMP). Erosive areas would be drilled instead of shaken by the vibroseis buggies. Soils in Wyoming are especially dependent on vegetative cover to prevent erosion; ground cover and root systems anchor the soil, recycle nutrients, and add scarce organic matter. For more information, see soils maps and technical data covering the entire project area in varying levels of detail available on BLM GIS files and survey data on file with the Sublette and Sweetwater County Natural Resources Conservation Service Offices.

Environmental Consequences of the Proposed Action

Impacts to soils in the form of compaction and gully erosion could be created, principally by the proposed off-road vehicle traffic. Compaction reduces capacity for soils to absorb moisture, and results in reduced root growth and plant vigor. Off-road vehicle operations would crush, and to a lesser extent break off, much of the above-ground vegetation, but root masses of grass and forbs remain alive and intact and continue to hold soil in place, reducing or avoiding erosion. Soil impacts from this project would be generally similar to, but less than, disturbance associated with block area chemical vegetative treatment projects, such as described in the Big Piney/LaBarge Coordinated Activity Plan Environmental Assessment (p. 73) which predicts soil loss rates up to 1/2 ton per acre per year. By offsetting individual vehicle drive paths (see approval conditions for visual resources), soil compaction and erosion as well as vegetation damage would be minimized. Consequently, compaction and soil erosion on level and gently sloping surfaces is anticipated to be negligible. Vehicle tire impacts would occur on approximately 3% of the total surface area encompassed by the project.

Soil loss would generally be higher on sparsely vegetated slopes over 25 percent. To protect soils, existing BLM standards limit surface disturbance on slopes greater than 25%. With implementation of the slope restriction prescribed below, the project should result in minimal impacts.

Impacts to soils may also occur as a result of surface rutting caused by vehicle operations on wet soils. Existing BLM standards call for closure during such conditions. With implementation of the saturated soil restriction prescribed below, the project should not result in significant impacts to wet soils.

Approval Conditions to be Applied

No vehicle operations (buggy vibes, recorder trucks, pickups, ATVs) should be allowed on slopes of 25 percent or greater (p. 159 GRRMP).

The operator should conduct no vehicle operations during periods of saturated ground conditions when surface rutting could occur (p. 159 GRRMP).

Any ruts created should be repaired in a way that would produce the least disturbance (i.e., hand shovel).

WATER RESOURCES

Affected Environment/No Action Alternative

Several types of wetlands were located in the project area, the most widespread type being R4SBA. Riverine channels that connect two bodies of standing water characterize these. The channels are intermittent, and contain water only part of the year. They are streambeds, and can be temporarily flooded. Water wells, surface water, springs, and riparian areas on BLM-administered lands are protected by standard avoidance stipulations.

Environmental Consequences of the Proposed Action

Vibroseis is not expected to affect features such as springs, seeps, or riparian areas in the project area. Safe-operating distances should be observed to eliminate disruption of the subsurface fissure or stream channel morphology, thus restricting or eliminating water flow. No significant impact is expected.

Vehicular traffic through riparian and wetland areas could result in a temporary increase in turbidity (water quality deterioration). If these areas are avoided, actual impacts are expected to be negligible. Vehicular traffic through/across the (ephemeral) stream channels could break down banks, increase sediment load, cause or accelerate erosion, and destabilize the channel. With application of the channel crossing stipulation listed below; however, no appreciable impact is foreseen.

Approval Conditions to be Applied

No vibroseis (source) points should be permitted within 500 feet of springs, seeps, or riparian areas.

No vehicle traffic should be allowed in wetland and riparian areas; traffic should remain on dry ground (project-specific analysis per guidance at p. 22 GRRMP).

Vehicular traffic across/through drainage channels should be limited to sloping drainage sides or to vertical banks of less than two feet. Channel crossings should be aligned perpendicular to the stream channel, to the extent practicable (project-specific adaptation of guidance at p. 22 GRRMP).

VEGETATION

Affected Environment/No Action Alternative

Vegetation in the project area is dominated by sagebrush with intermingled secondary areas of greasewood, desert-shrub, and mixed-grass prairie communities. The grasses/forbs present in the project area include thickspike wheatgrass, western wheatgrass, Indian ricegrass, Sandberg bluegrass, winterfat, needle and thread grass, and fourwing saltbush.

Environmental Consequences of the Proposed Action

The West Flank (Wild Bunch) 3D project would involve direct surface impacts to approximately 4,051 acres of land. It has been observed on previous geophysical projects that woodier plants in the vehicle paths are sometimes impacted but more tender and resilient grasses and forbs survive and continue to occupy the vehicle paths. Brush kill is a function of multiple factors including brush type, amount of traffic, time of year, and moisture conditions. Geophysical projects conducted under snow and frozen ground conditions typically leave little to no visible trace, killing less than 5% of the brush which is driven on. Based on observation of past summer / fall 3D projects in areas of the relatively tall mountain and basin big sagebrush, however, approximately 60% of the sagebrush driven over is killed, another 20% is partially killed or "pruned," and the remaining 20% is undamaged. In environments where relatively low black and low sage predominates, brush kill by dry season projects is less with only approximately 40% of low sage in drive paths killed and another 20% partially killed or damaged. Relatively low-growing sage communities predominate in the subject project area with taller sage confined to small areas of deeper soils and greater available moisture such as on floodplains.

Vehicle impacts to grasses and forbs are anticipated in the same physical area as brush impacts but even shorter-term in effect as grasses and forbs are not killed and will re-sprout from their established root systems. If project operations are conducted during the dry summer and fall seasons, the remaining grass in the vehicle paths may be broken off with re-growth not anticipated until next spring. Seasonal dry grass and forb loss within the impact area, however, is not expected to be significant. Overall, with side-by-side vehicle travel paths (see approval conditions for visual resources) limited to areas of less than 25% slope (see approval conditions for soils), West Flank (Wild Bunch) 3D vehicle traffic impacts to the general vegetation are expected to be minimal for the following reasons: Impacts are limited to species composition changes (not vegetation removal/dirt work), species composition changes will occur on a maximum of only 4.3% of the project area, species composition shifts would involve only a proportion change among existing native plants (no introduced species), and species composition changes would be short term as new brushy plants begin to reoccupy the vehicle paths within a few years (also see impacts discussion for wildlife and cumulative effects).

SPECIAL STATUS PLANTS

Affected Environment/No Action Alternative

The U.S. Fish and Wildlife Service has identified no federally designated threatened, endangered, proposed or candidate plant species as potentially present in this region. Ute ladies' -tresses (*Spiranthes diluvialis*) is a federally threatened member of the orchid family that grows in moist soils along riparian edges, gravel bars, old oxbows, and wet meadows at elevations of 4,200 to 7,000 feet. Suitable habitat for this plant is known to occur in the West Flank (Wild Bunch) 3D project area (Jim Glennon, RSFO botanist, August 26, 2004).

Fifteen species in the RSFO area have been accorded 'sensitive species' status by BLM Wyoming State Office Instruction Memo WY-2001-040. Refer to the Wyoming Rare Plant Field Guide (Fertig 1994) for plant descriptions and other information. None of these species are present in the project area (Jim Glennon, RSFO botanist, August 26, 2004).

Environmental Consequences of the Proposed Action

Habitat for Ute ladies'-tresses is found on steep slopes near riparian areas. With the prescribed measures below, avoidance of the riparian areas would ensure that no significant impact can occur on special status plants.

Approval Conditions to be Applied

The company shall avoid riparian areas by 500 feet and cease vehicle travel on slopes greater than 20%.

INVASIVE SPECIES

Affected Environment/No Action Alternative

A total of 22 noxious weeds including invasive species are of concern in Wyoming and 11 of these may be of concern in the project vicinity. These weeds include Canada thistle, musk thistle, black henbane, Dyer's woad, halogeton, spotted knapweed, Russian knapweed, hoary cress (whitetop), perennial pepperweed (giant whitetop), leafy spurge, and perennial sowthistle. Occurrence of these weed species has a much higher probability in areas of past disturbance and varies according to basic vegetative cover type. Because invasive and noxious plants are typically very aggressive, special management is required to prevent existing infestations from spreading (or to eradicate these infestations) and prevent the introduction of noxious weed seed from outside sources.

Environmental Consequences of the Proposed Action

Noxious weeds could be introduced to the area by infested equipment. With implementation of the vehicle washing stipulation, no significant impact with regard to weeds is foreseen.

Weeds could also invade and take hold in areas of surface disturbance caused by project operations. If reclamation and reseeding is undertaken promptly in any areas of unanticipated surface disturbance as prescribed, no significant impact to vegetation or weed occurrence is foreseen.

Approval Conditions to be Applied

To prevent the introduction of new weeds, Veritas shall thoroughly power-wash all field vehicles (buggy vibes, pick-ups, ATVs, etc.) before transporting them to the project area.

Veritas 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 this EA.

LIVESTOCK/RANGE

Affected Environment/No Action Alternative

The proposed West Flank (Wild Bunch) 3D project falls in the Rock Springs grazing allotment. Utilized by cattle, these allotments have grazing scheduled in all four seasons so livestock are anticipated to be present in the area during project operations.

Environmental Consequences of the Proposed Action

Leaving fences down or gates open when livestock are present may result in livestock moving between pastures, from private or State to public land or vice versa, onto highways, and herd mixing. This could lead to unauthorized grazing, overgrazing, or increased livestock operator cost associated with sorting mixed herds. With implementation of the fence and lessee notification measures prescribed below, the project should result in

negligible impacts.

Seismic activities operations in close proximity to water wells and pipelines or water impoundments could result in casing failure or dam fissure and a subsequent loss of livestock water. With implementation of the water restrictions prescribed below, the project should result in no significant impacts. Other types of surface water are addressed under Water in this EA, while pipelines are covered under the Oil & Gas section of this EA.

Heavy vehicle traffic could cause damage to existing cattle guards. With implementation of the facilities repair/replacement responsibility measures prescribed, the project should result in no significant impacts.

The Proposed Action would result in short-term vegetative effects on a small percentage of the project area. This disturbance would consist primarily of conversion of an estimated 60% of the mature shrubs and forbs in the tire paths to grass and also to younger, more succulent shrubs and forbs. While species and age make-up of plants in the tire paths would change, available palatable livestock forage would not be appreciably affected. With side-by-side vehicle travel paths (see approval conditions for visual resources), livestock forage impacts are anticipated to be negligible.

Approval Conditions to be Applied

Veritas shall make every effort to avoid disturbing or altering fences. The fence should be passable for most wire or cable apparatus, but vehicles will be required to go around the fence through established gates. If fences are broken in any capacity, the BLM range staff (Jay D'Ewart) will be notified immediately with the location in order to coordinate fixing the break by a qualified person.

Vibroseis source points shall be located a minimum of 300 feet from all water wells and reservoirs unless written permission to encroach closer has been given by the landowner or operator (BLM H-3150-1 Handbook).

Moving or altering any range improvement project is not authorized. The Rock Springs BLM range staff shall be notified prior to any moving or alterations. Veritas will be responsible for the repair and or replacement of any facilities damaged during the course of this project.

WILD HORSES

Affected Environment/No Action Alternative

The West Flank (Wild Bunch) 3D project area lies within the Little Colorado Wild Horse Herd Management Area (pp. 23, 73, Map 27 GRRMP). The 4,051 acres of surface disturbance amount to less than 0.8% of the herd management area. Gathering and other horse management activities are not planned for this area at this time.

Environmental Consequences of the Proposed Action

Wild horses, especially young colts and pregnant mares, could be affected by low flying helicopter operations, if conducted during the peak foaling period between April 1 and July 15. Otherwise, wild horses are generally very tolerant of human activity, and only short-term and highly localized displacement is anticipated. With application of the helicopter restriction prescribed, no impact is foreseen.

Approval Conditions to be Applied

To protect wild horses, helicopter activity should take special care to avoid frightening or running wild horses.

WILDLIFE and SPECIAL STATUS ANIMAL SPECIES

Affected Environment/No Action Alternative

In addition to the species specifically discussed below, the project area provides habitat for mule deer, a variety of neo-tropical bird species, white-tailed jackrabbit, cottontail rabbit, coyote, red fox, Richardson ground squirrel, thirteen-lined ground squirrel, badger, and mice. Identified prominent wildlife activity sites in the project area include raptor nests, greater sage grouse leks (strutting/mating grounds) and nesting grounds, prairie dog towns,

elk birthing and wintering areas, and burrowing owl nests. Information regarding these and other prominent species is derived from BLM, WGFD, PIC Technologies, and TRC Mariah data, which has been compiled and is available via the BLM GIS computerized maps and mylar overlays.

The project area serves as part of the expansive habitat occupied by the Sublette Antelope Herd. Target population for this group is 48,000 individuals. Members of this herd range from summer habitat in Grand Teton National Park as much as 150 miles northwest to winter ranges near I-80 (PAPA DEIS, p. 3-72). Telemetry studies yielded preliminary indications that in mild winters some antelope from the Jackson/Grand Teton area winter on the south end of the Mesa just north of the West Flank (Wild Bunch) project area. The West Flank (Wild Bunch) 3D project area, thus, lies within a general north-south seasonal migration corridor, and is inhabited year-round by the animals. Crucial winter range for Sublette Herd antelope has been identified in nearly all of the West Flank (Wild Bunch) 3D project area, as reflected on Map 2. Veritas may apply for an exception to the crucial winter range restriction to conduct geophysical activities after November 15.

Special Status Animal Wildlife Species – Twelve federally designated threatened, endangered, proposed or candidate animal species are considered potentially present in the project area. Status of these species with regard to the West Flank (Wild Bunch) 3D project area is summarized in Table 2.

TABLE 2 - Federally Threatened, Endangered, Candidate, and Proposed Animal Species

Species	**Status**	**Habitat**	**Status in Project Area / Comments**
Bald eagle	T	Found statewide	No suitable nesting/roosting habitat. No additional information needed.
Grizzly bear	T	Montane forests	No suitable habitat in project area. No additional information needed.
Canada lynx	T	Montane forests	No suitable habitat in project area. No additional information needed.
Black-footed ferret	E	Prairie dog towns	None known. No inventory required.
Yellow-billed cuckoo	C	Riparian areas west of the Continental Divide	No suitable habitat in project area. No additional information needed.
Whooping crane	X	Palustrine wetlands, wet meadows	No suitable habitat in project area. Experimental population. No additional information needed.
Gray wolf	X	Primarily montane forest	No suitable habitat in project area. Experimental population. No additional information needed.
Colorado River fish species: (bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker	E	Downstream residents of the Green River system	No effect to stream flows. No additional information needed.

T - threatened *E - endangered* *P - proposed for listing* *X - experimental population*

Although the USFWS determined the area or portions thereof meet ferret habitat criteria and recommended BLM require ferret searches in affected prairie dog colonies meeting ferret habitat criteria, USFWS has modified their position for other 3D seismic projects using vibroseis. In a letter to the Rawlins Field Office for another seismic project dated August 8, 2003, the USFWS stated:

"Based on the best available data, the Service believes that thumping [vibroseis] activities within an active prairie dog town will not adversely affect black-footed ferrets (*Mustela nigripes*)… Until further research indicates differently, we recommend that thumping energy source points avoid prairie dog burrow entrances and that explosive seismic surveys avoid prairie dog towns…"

The BLM concurs that it is not unnecessary to conduct black-footed ferret surveys for seismic projects using

vibroseis nor would this action preclude the area for consideration for possible ferret introduction in the future. Therefore, the BLM has made a no effect determination. This species will not be given further consideration in this analysis.

Mountain plover breeding/nesting habitat is typified by short grass prairie and nearly barren areas, and is often associated with prairie dog towns (USFWS 2002).

Twenty-eight animal species potentially present in the Rock Springs and Pinedale Field Offices have been accorded 'sensitive species' status by BLM Wyoming State Office Instruction Memorandum WY-2001-040. Inventory of sensitive species by BLM and WYNDD is ongoing. Among the sensitive species, raptors and sage grouse are notable in that they are protected via seasonal restrictions.

Raptor nest occupation inventories have recently been conducted in the West Flank (Wild Bunch) 3D project area (James Dunder, Biologist, BLM-RSFO). Multiple nests from various species were found, as indicated on Map 2.

A number of sage grouse strutting areas (leks) are known to exist in the West Flank (Wild Bunch) 3D vicinity and are depicted on Map 2.

Areas of tall (>4 ft) sagebrush growth along drainages serve as wildlife corridors, providing hiding cover from predators as well as thermal shelter for wintering wildlife. Stands of tall sagebrush occur in several areas within the West Flank (Wild Bunch) 3D.

Environmental Consequences of the Proposed Action

Antelope use of the western fringe of their crucial winter range could be adversely affected if project activities were conducted between November 15 and April 30 and animals were present. If the project schedule were delayed into the winter season, standard big game crucial winter range seasonal restrictions would apply. However, exceptions could be granted if conditions warrant. No significant impact to wintering antelope is foreseen.

The proposed operations could adversely affect mountain plover nesting and rearing activities, if operations are conducted April 10 through July 10. Seismic operations are scheduled to begin after July 10; therefore, the Proposed Action is not likely to jeopardize mountain plover.

Important raptor nesting could be disturbed if the proposed project were conducted between February 1 and July 31 unless an exception is granted (Appendix B) based on existing conditions. With implementation of the raptor nest avoidance restriction; however, no significant impact to nesting raptors is foreseen.

The proposed operations could adversely affect sage grouse strutting, nesting, and rearing activities if conducted between February 1 and July 31 (Table 8, Appendix 7 GRRMP) although exception to seasonal restrictions may be granted should conditions allow (Appendix B). With implementation of the sage grouse inventory and avoidance prescription, no significant impact to sage grouse strutting, nesting or rearing activities is anticipated.

Elk birthing grounds could be disturbed if the project were conducted between May 1 and June 30. Since operations are scheduled to take place in the fall, no significant impact to elk birthing is foreseen.

Geophone cable deployment and vehicle traffic will cause animals to leave the immediate area of human activity. This displacement of wildlife would be brief and localized, as small scale transitory activities are spread over multiple small sites within the project area. Overall, with implementation of the seasonal restrictions protecting wildlife during the more sensitive birthing/rearing season, no significant impacts to wildlife are foreseen as a result of this activity.

Noise and vibrations caused by the proposed vibroseis operations would cause prairie dogs and other underground-dwellers to flee to their burrows while equipment is in close proximity. Due to the generally clay-like, loamy texture of soils in the project, vibroseis operations are not expected to result in burrow failure. However, should tunnel collapse occur, an animal within the tunnel could be crushed. Of interest, data suggest that within approximately 6 months of completion of a 3D vibroseis project, impacts associated with the geophysical activity appear to have had positive effects on new burrow construction, as loosened soil along vehicle travel paths is attractive to some burrowing rodents (Thomas 1995). In sum, accidental entombment, temporary displacement,

and stress to small animals may occur, but long-term impacts to small mammals are expected to be negligible. Concomitantly, impacts to small mammal predators, principally raptors, are also anticipated to be not significant.

Approval Conditions to be Applied

No project activity is permitted November 15 through April 30 in the big game crucial winter range depicted on EA Map 2 (p. 64 GRRMP) unless exception is granted.

If project field activities are proposed during the period between February 1 and July 31, a raptor nest survey should be conducted to find nests occupied in spring 2004. From February 1 through May 31 (nest selection period), geophysical operations shall not be allowed on BLM-administered lands within 0.5-mile radius of occupied raptor nests, except ferruginous hawk nests, for which the seasonal buffer is a 1.0-mile radius. A survey of nests was conducted June 14, 2004 and findings include no ferruginous hawk nests, but other raptor-nesting sites. Exception criteria are provided in Appendix B.

If activities are proposed between March 1 and June 30, the geophysical operator will provide BLM with a sage grouse lek survey report covering all areas to be affected during this period. Current lek/nesting survey data addressing parts of the West Flank (Wild Bunch) 3D project area will be utilized as much as possible and is available at the Rock Springs Field Office.

If activities are proposed for the period April 1 through July 31, the geophysical operator will provide BLM with a sage grouse nesting inventory, completed by a qualified biologist covering all areas to be affected during this period (pp 9, 10, 59 PRMP, p. A-19 PAPA ROD).

No project activity is permitted between May 1 and June 30 to protect elk calving areas.

To protect wildlife cover, vehicle traffic should avoid stands of tall sagebrush. Stands of tall sagebrush are defined as areas in which the majority (more than 50%) of sagebrush plants are 4feet or taller.

VISUAL RESOURCES

Affected Environment/No Action Alternative

The majority of West Flank (Wild Bunch) 3D falls within VRM Class IV designation, the least protected visual resource management class. A small portion of the project area along I-80 and Hwy. 191 North is VRM Class III. No special visual resources or high sensitivity have been identified within the project area according the GRRMP, although Historic Trails run through the project area. Based on BLM guidelines within Class IV areas (p. 21 GRRMP), surface disturbance can reach moderate to high levels; however, every attempt should be made to minimize the impacts of these activities through careful location and minimizing disturbance. Source points would occur 300 feet and beyond the historic trail ruts (p. 15 GRRMP); therefore, there is potential for source points and geophysical operations to be noticed by visitors to the trails. (Also see discussion of historic trails in the recreation portion of this EA.)

Environmental Consequences of the Proposed Action

Off-road vehicle traffic by buggy vibes and repetitive passes by ATVs could cause linear obtrusions (i.e., two-track paths) across the landscape. This potential to create linear visual scars is possibly the most substantial impact by the West Flank (Wild Bunch) 3D. To avoid linear visual obtrusions, to reduce soil compaction, and to reduce the degree of vegetation loss, BLM requires that geophysical projects offset their vehicle operations such that the tires of one vehicle do not follow in the path of another. This approach has been successful for other geophysical projects and linear-two-tracks have not been created. With this vehicle offsetting system (see approval conditions below) and the prescribed slope restriction (see approval conditions for soils), visual impacts caused by the project are anticipated to be low level and short term.

Based on field review conducted in July, 2004, source points have been relocated within the 0.25-mile corridor on either side of the trail so as these points are screened from view by visitors along the historic trails to the extent possible. Once geophysical operations move near the trail system, such operations would be visible temporarily.

Approval Conditions to be Applied

Veritas should 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.

Historic trails will only be crossed by vehicles at established crossings, and Veritas will maintain a 300-foot buffer on each side of the trails.

All vibration points within one-quarter mile of the trail ruts will be hidden behind topography to the extent possible. Where topography is not available, the operator will employ a sinuous approach and retreat from the points as to not create linear visual impacts in this zone.

RECREATION

Affected Environment/No Action Alternative

Recreational use in the project area is light and centers primarily on hunting. Antelope, sage grouse, and deer are the predominant species hunted; however, some prairie dog, elk, and rabbit hunting also occurs. Antelope rifle hunting in Area 92 and 96 runs from September 10 through October 31, mule deer rifle hunting in Area 131 runs from October 1- October 8 and November 1- November 9, elk rifle hunting in Area 100 runs from October 15-October 31, 2004, and sage grouse hunting in the Upper Green River Basin runs from September 23 to October 3. Statewide, cottontail rabbits can be hunted Jan 1-Mar 1 and Sept 1-Dec 31. Prairie dogs, jackrabbits, coyotes, and foxes can be hunted year-round.

BLM has authorized commercial big game outfitting in this area, primarily for antelope. Other dispersed recreational activities that may take place in the West Flank (Wild Bunch) 3D include driving on the Historic Trails, off-road vehicle (ATV) use, mountain biking, hiking, wildlife viewing, and sightseeing. No developed recreation sites (campgrounds, etc.), one recreation use area, and no special recreation management areas exist in the West Flank (Wild Bunch) 3D project area (Maps 21 and 22 GRRMP).

ORV management calls for motorized vehicles to stay on existing roads and trails, unless permitted or otherwise allowed an exception by the Authorized Officer (pp. 15-16 GRRMP). Geophysical operations are routinely granted exceptions with appropriate limitations.

Environmental Consequences of the Proposed Action

Project operations could disrupt recreation activities by visibly and audibly intruding on recreationists and by temporarily displacing game, which would inconvenience hunters should project operations overlap with hunting seasons. Some visitors to the Sublette Cutoff would be inconvenienced by geophysical operations. Considering the size of the active project operations area as compared to the size of surrounding big game and sage grouse habitat and hunting area boundaries, project impact to hunting is expected to be minimal. Similarly, in view of the low known levels of other recreation use in the West Flank (Wild Bunch) 3D and considering the vastness of nearby public lands not temporarily occupied by geophysical project activity, project effects to dispersed recreation are anticipated to be minimal. No impacts to recreation would occur following completion of the project. Overall, impacts to recreation are considered less than significant.

In the BLM-RSFO, temporary 'casual' off-road vehicle use is permitted on a case-by-case basis for the performance of tasks in support of formally permitted actions. Casual use in such instances is defined as the single pass of vehicles under 10,000 lbs GVW off-road, subject to the 25% slope restriction (in conformance with BLM Manual 3150, part 3.1.B.5). Surveyors, biologists, and archeologists working on project planning and inventories operate under this exception. With the ORV use limitations stipulated, no resource damage is anticipated as of ORV casual use authorization.

Approval Conditions to be Applied

Off-road 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, saturated soil restriction, and seasonal greater sage grouse nesting seasonal restrictions still apply.

SOCIOECONOMIC CONSIDERATIONS

Affected Environment/No Action Alternative

The West Flank (Wild Bunch) 3D project is located around the town of Rock Springs and Northerly to White Mountain. The local economy is heavily dependent on oil and gas exploration and development. A discussion of recent socio-economic conditions and trends for the area is given in the Jonah II DEIS (pp. 3.25-32). Information in the document is incorporated by reference. Please refer to these documents for information on the current status of local socio-economic conditions.

Environmental Consequences of the Proposed Action

Peak workforce at any one time for the West Flank (Wild Bunch) 3D project is expected to be approximately 60 persons and total time to complete the project is estimated at three months. Seismic crews would likely be headquartered in Rock Springs, Wyoming. Crews would be transported to the project area and back to Rock Springs on a daily basis. Most of the workers have permanent residences else where, consequently the project is not expected to place any demands on schools or other similar facilities.

It is unlikely that project activities would generate significant levels of concern, opposition, or dissatisfaction among local residents; residents of local communities are accustomed to and generally accepting of oil and gas related activities, including seismic operations, and are unlikely to view this project as problematic, particularly since it is located adjacent to areas where previous oil and gas related activities have occurred.

An indirect economic benefit would be new producing gas wells in hydrocarbon-bearing strata identified through the geophysical data. The level of benefit associated with new wells would be similar to those described in the Jonah II document.

Approval Conditions to be Applied

No approval conditions have been identified.

CULTURAL/HISTORICAL RESOURCES/HISTORIC TRAIL

Affected Environment/No Action Alternative

The West Flank (Wild Bunch) project files search area contains known cultural resource sites, with most of the area still un-inventoried for cultural resources. Class III cultural resource inventory of the project area is needed to evaluate potential impacts of the project. Following standard procedures established in the Wyoming State Protocol Agreement between the BLM State Director and the Wyoming State Historic Preservation Officer (Section VII, D1(a)), geophysical operations would be re-designed to avoid cultural resource sites eligible or unevaluated for the National Register of Historic Places (NRHP). Sites will be evaluated according to the criteria established by the National Historic Preservation Act of 1966, as amended (NHPA). Sites avoided by project re-design need not be evaluated.

Potential effects to the Overland Trail should be considered. The trail through this area is almost completely non-contributing as developments in and around the towns of Green River and Rock Springs have eliminated the majority of intact trail features; no impact to the trail is expected. The Wyoming State Historic Preservation Officer was consulted September 10, 2004 and it was found that there is no adverse effect to the trail.

Environmental Consequences of the Proposed Action

The proposed seismic exploration could cause effects to sites eligible for the NRHP. An effect is defined as an alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register of Historic Places (43 CFR 800.16(i)). These effects could be in the form of direct, indirect or cumulative impacts. Direct impacts are physical and can adversely affect the site or its setting. Direct impacts could occur from vehicle traffic through sites during geophysical field operations, creating two-tracks, surface soil displacement and/or soil compaction. If exploration activities are carried out in wet weather, rutting could also

occur within sites. The new trails themselves, a direct impact, could also affect the setting of sites for which setting is a component of site significance, such as for the Historic Trails (see discussion below). Indirect effects to sites could occur through creation of trails which subsequently might be used by recreationists or stimulate erosion. By providing access into areas containing sites these paths could be used by the public and facilitate illicit artifact collection which could radically change site interpretations and result in the loss of important scientific information. Cumulative effects consist of a gradual degradation of the cultural landscape through erosion and illicit artifact collection, as well as the aggregate effects of possible development and use in an area, which affects the surface. With the implementation of the spread out vehicle pattern (see vegetation section) and the standard cultural resource procedures identified below, no effect to significant cultural resources is foreseen.

Vehicular traffic on the Oregon, Mormon Pioneer, Pony Express Trails or other historic transportation routes could affect integrity of design, workmanship, and feeling of contributing segments. Off-road vehicle traffic within the setting of these historic transportation routes could affect their integrity of setting and feeling. With implementation of the Trail setting traffic restrictions prescribed, effects to the historic transportation routes would not be adverse.

Approval Conditions to be Applied

Veritas should provide a Class III cultural resource inventory for all public lands where off-road vehicle traffic will occur. The inventory shall cover 50 feet either side of the flagged centerline of off-road travel routes, for total inventory coverage of 150 feet. Such inventory will not be required for areas covered by previous inventories, provided those inventories meet current standards. The cultural resource inventory will be designed to locate and prescribe avoidance routes or other mitigation for all significant sites, previously recorded as well as newly discovered. Standard site avoidance entails a 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 ineligible for nomination to the NRHP require no further action should they match the previously recorded description. Sites that have changed sufficiently to warrant a modified site form or site form addendum will be reevaluated.

Vibroseis (source) points must be at least 300 feet from the Historic trails (p. 4 GRRMP). Cable within one-quarter mile of the trail will be placed by helicopter-assisted pedestrians.

No project-related vehicle traffic (industrial access) is permitted on the Historic trails (p. 4 GRRMP).
The Historic trails may be crossed at existing disturbances or in areas previously determined to be non-contributing. 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.

Veritas's archeological consultant should 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 West Flank (Wild Bunch) 3D project map for Veritas, who is requested to arrange avoidance for these properties. Previously determined not eligible properties will be revisited to assure that they are adequately recorded.

All off-road vehicular traffic on BLM land should be confined to a corridor 1500 feet wide (50 feet either side of the flagged centerline) along lines that have been inventoried for cultural resources.

Long-term effects to the setting of the trail of the ruts are not permitted. If the stipulations above are followed there should only be short-term (less than three years) impacts. Should there be any unanticipated damages the applicant will fund necessary remediation measures to restore the setting to its former condition.

NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment/No Action Alternative

Two Sacred Sites, as defined by Executive Order 13007, was detected by the cultural resources inventory. As part of its standard Tribal consultation process, the site was visited by representatives from the Tribe and their input sought to eliminate potential effects of the undertaking. Should unidentified sites of Native

American concern be identified appropriate tribes will be consulted and recommendations solicited regarding measures necessary to eliminate potential effects of the project. With implementation of the following measures there should be no impact to Native American Sacred sites.

Environmental Consequences of the Proposed Action

Previously recorded and yet unidentified sites of Native American concern could suffer impacts by adversely affecting their physical integrity or by interfering with their ceremonial use. Native American groups historically associated with this area consider prehistoric rock alignment, cairn, stone circle, rock art and potential funerary sites highly sensitive. These sites are specially managed by BLM via the use of buffer zones. Project-related cultural resource inventory may identify additional sites of these types within the West Flank (Wild Bunch) project area, particularly cairns and stone circle sites. With implementation of the following mitigation measure, however, the project should cause no impact.

Approval Conditions to be Applied

If any sites of potential Native American religious concern (e.g., rock art, vision quest structures, human burial sites, prehistoric cairns, stone circles, stone alignments, altars, medicine wheels) are identified by Veritas personnel or subcontractors within the project boundary but outside the cultural resource inventory (vibe line) corridors, the BLM RSFO Archeologist shall be promptly notified. The BLM RSFO shall determine the need for special measures and/or Native American consultation. This stipulation applies to both federal and non-federal lands.

Native American sites should be avoided by a minimum of 300 feet unless closer activities are approved through completion of consultation with the affected tribes.

NOISE, WASTE, and SAFETY

Affected Environment/No Action Alternative

Major sources of noise within the project area at this time are occasional jet aircraft over flights at high altitudes, localized vehicular and light industry activity on local resource roads, drilling rigs and occasional blow-down sounds at existing wells within the project area. These noise sources currently create variably but generally modest sound disturbances within the area.

No 'contaminated sites' are present in the West Flank (Wild Bunch) 3D area according to Wyoming Department of Environmental Quality Solid and Hazardous Waste sites data available via the Internet at http://deq.state.wy.us.

As may be expected, hazardous materials are present in the project area in the form of well drilling reserve pits, natural gas/oil pipelines, material transport containers on passing trucks, above ground fluid tanks at producing well locations, and fuel tanks in parked and moving vehicles. These materials, however, are contained and readily recognizable and merit no further consideration. Material Safety Data Sheets (MSDS's) for all hazardous materials associated with the proposed West Flank (Wild Bunch) 3D geophysical operations are maintained by the Veritas crew Safety Officer and are available for review upon request.

No H2S or other unusual safety hazards are known for the project area.

Environmental Consequences of the Proposed Action

Seismic-related activities, including buggy vibe engine noise, the sound of vibration at source points, helicopters, and support traffic would create sound disturbance within the project area of 90-112 dBa. These impacts would be transient as the project recording operations proceed across the 107 square mile area and would occur for the duration of the project. Because of the remote location of the proposed activity perception of the added noise would be primarily by wildlife and livestock, as human presence in the project and surrounding area is at very low levels (project employees notwithstanding), except in the active oilfield where noise levels are already elevated. No occupied dwellings are known within the project boundary. Noise-related effects, consisting of temporary wildlife displacement and annoyance to some recreationists present are expected to be minor (also see wildlife and recreation sections of this EA). Overall, project noise elevation is anticipated to be of moderate level, localized, and transient, and is not expected to be significant. Thus, no approval conditions are proposed.

Project markers in the form of wooden lath, ribbon flagging, pin-flags and spray paint could contribute litter / solid waste in the project area. However, Veritas has made an operational commitment in their Proposed Action to remove project lath and flagging as recording operations progress, so no debris should remain behind the project as planned. No impact in this regard is foreseen and no approval conditions are recommended.

Hazardous substances such as gasoline, diesel, vehicle lubricating and hydraulic oil used in the field during project operations could contaminate natural resources, if spilled. With implementation of the waste disposal prescription, however, no significant impact is foreseen.

Fires could be lit, causing serious safety hazards and loss of or damage to property.

Approval Conditions to be Applied

Veritas should clean up all oil, diesel or hydraulic fuel spills, including contaminated soils. All spill-related material should 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.

Veritas should 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.

Veritas should 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.

Veritas will place all tanks holding bulk liquids in lined and bermed areas. Capacity of the bermed 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 should be done away from riparian or other open water areas.

CUMULATIVE IMPACTS

The BLM must consider the cumulative effects of the proposed action in conjunction with other activities. A cumulative impact is an impact on the environment that results from the incremental impact of the proposed action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

With implementation of the proposed measures prescribed earlier in this document (see proposed action), the primary impact associated of the proposed action would be that of driving on approximately 3% of the ground surface in the project area and potentially damaging and to a much lesser extent killing a percentage of the brush within the tire paths. This project would affect primarily vegetation and visual resources. No cumulative impacts to other resources are foreseen.

Incremental effects to overall vegetation are considered negligible because:

1) They are limited to species composition changes (not vegetation removal/dirt work);
2) Species composition changes would occur on less than 3% of the project area;
3) Species composition shifts would involve only a proportional change among existing native plants (no introduced species); and
4) Species composition changes would be short term, as new brushy plants would begin to reoccupy the vehicle paths within a few years.

As with visual resources, BLM field inspection of past projects has indicated that 3D seismic projects do not leave major vegetative changes. The amount or percentage of sagebrush actually killed within the ‘thinned’ corridors (under tire tracks and pads) is considerably less. Cumulative impacts to vegetation are therefore not expected to differ much from those described under environmental consequences above and are expected to be minimal.

Conclusively, considering the relatively low level and short-term nature of the anticipated project impacts and the implementation of the protective measures proposed, the proposed 3D vibroseis project together with on-going activities would not adversely affect elements of the human environment.

No Action Alternative

Adoption of this alternative would not end oil and gas exploration or development. With or without the geophysical data, well drilling is anticipated in the project area. Without the 3D data, lessees are more likely to drill 'dry holes'; resulting in greater environmental impact than if they had the 3D data. Well pad and access road construction for dry holes involves removal of vegetation cover. Seismic exploration is the least surface-disturbing means available to obtain subsurface geologic data.

RESIDUAL IMPACTS

Mitigation measures developed through this EA addressing potential environmental impacts under this alternative would be included as Terms and Conditions attendant to approval of the NOI. As the mitigation measures would avoid or minimize impacts, no residual effects are foreseen.

PREPARERS

The preparers of this EA are listed in Table 3.

TABLE 3 – List of Preparers

Specialist	Position	Office or Organization
Jim Dunder	Wildlife Biologist	RSFO
Jim Glennon	Botanist	RSFO
Terry DelBene	Archeologist	RSFO
Bonni Bruce	Archeologist	RSFO
Dennis Doncaster	Hydrologist	RSFO
Shelly Devoss	Natural Resource Specialist	RSFO
Jay D'Ewart	Range Conservationist	RSFO

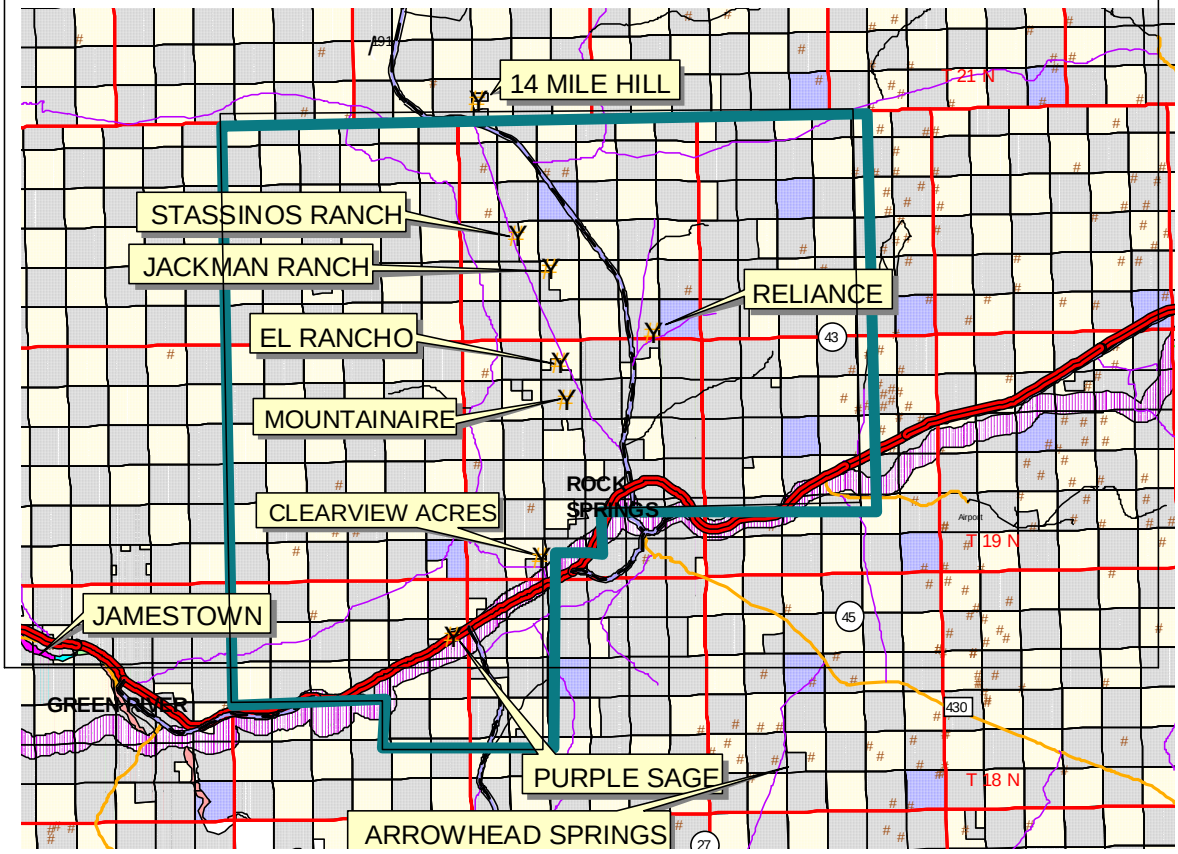
PUBLIC INVOLVEMENT

Comment letters received are listed in the table below and were considered in this analysis. Some comments were received via fax prior to the reception date of the hard copy listed below.

Name	Representing	Date Comment Received
Dave Welch	OCTA	07/14/2004
Sharon Bowles	John P. Strang and Associates	08/04/2004
Lynne Boomgaarden	Wy State Office of Lands and Investments	08/06/2004
Paul Kauchich	City of Rock Springs	08/07/2004
John V. Corra	Wy Department of Environmental Quality	08/10/2004
Dru Bower	Petroleum Association of Wyoming	08/10/2004
Bill Wichers	Wyoming Game and Fish Department	08/11/2004
Erik Molvar	Biodiversity Conservation Alliance	08/12/2004
Brian T. Kelly	USFWS	08/13/2004

Public meetings were held on July 22, 2004 at 1:00 and 6:00 PM. The Rock Springs City Council (televised) was addressed on September 7, 2004. Students and staff at North Park Elementary in Rock Springs, near the project area, were given an assembly on the project on September 9, 2004.

West Flank (Wild Bunch) 3D Residential Areas



7 0 7 14 Miles

- West flank.shp
- Rsfo-bndry

Roads
- BLM
- County
- Interstate Freeway
- Private
- State
- US hwy
- Rs-township
- Rs-section
- Hist-trl-bfr
- Historictrail
- Ogwells-4-2001-t12-31n-r95-115w.shp

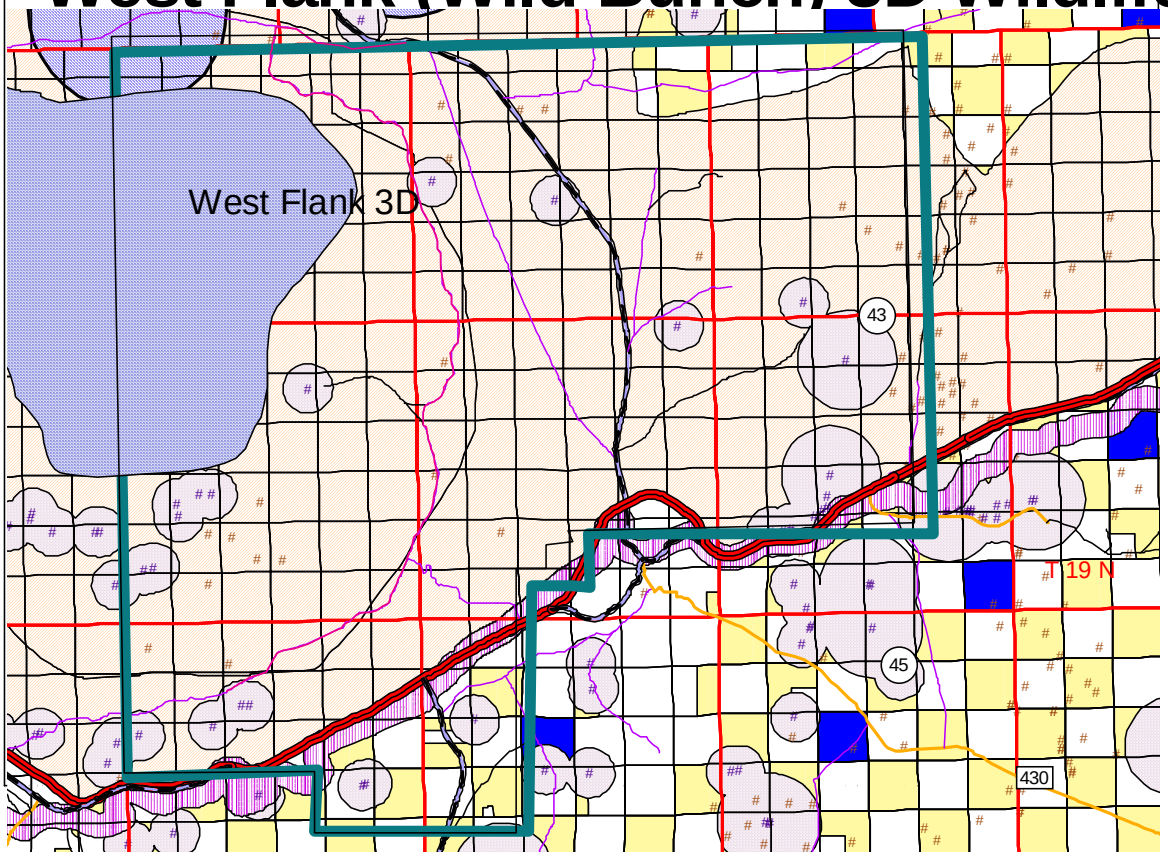
Surface
- BLM
- BOR
- Private
- State

Cities-towns
- Arrowhead
- Arrowhead Expansion
- Green River
- Green River Expansion
- Jamestown
- Jamestown Expansion
- Reliance
- Reliance Expansion
- Rock Springs
- Rock Springs Expansion

N
W E
S

Drafted by SRD 09/01/2004
BLM can not guarantee these data.

West Flank (Wild Bunch) 3D Wildlife



6 0 6 12 Miles

Crucial_elk
Marathon_horse_loop.shp
West flank.shp
Rsfo-bndry
Roads
BLM
County
Interstate Freeway
Private
State
US hwy
Rs-township
Rs-section
Raptors
Hist-trl-bfr
Historictrail
Ogwells-4-2001-t12-31n-r95-115w.shp
Raptor-buffer
Sagegrouse-2m
Crucial-antel
Surface
BLM
BOR
Private
State

N
W E
S

Drafted by SRD 09/01/2004
The BLM can not guarantee these data.

APPENDIX A
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 a Veritas representative to determine the need for restorative re-vegetation.

In general:

Disturbed areas where major compaction has occurred will require scarification or discing 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 34 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.

The basic seed mix below will be used or modified as directed by the Authorized Officer. Native species that will be considered include bluebunch wheatgrass, streambank wheatgrass, bottlebrush squirreltail, needle-and-threadgrass, and big sagebrush. The WGFD recommends that shrub species be considered in seed mixtures.

Seed should be broadcast as uniformly as possible, and incorporated in the soil to an optimum depth of 0.5 inch with hand rakes.

RECOMMENDED GENERAL SEED MIXTURE:

species	lbs PLS per ac
Critana thickspike wheatgrass	8
Rosanna western wheatgrass	8
Indian ricegrass	8
bitterbrush	2
scarlet globe mallow	2
winterfat	4
four-wing saltbush	2
TOTAL	34

APPENDIX B

Raptor/Greater Sage Grouse and Big Game Exception Criteria

Criteria to Consider for Exceptions to Seasonal Restrictions for Raptors/Sage Grouse

REQUESTER: _____ DATE OF REQUEST: _____		
PROJECT NAME: _____		
REQUESTED DATE(S) OF EXCEPTION: _____		
ACTIVITY PROPOSED: _____		
LAST DATE OF FIELD EXAM: _____ GIS/ARCVIEW MAP REVIEWED: YES NO		
General Considerations - Requests for Exceptions	**Comments**	
Are factors leading to inclusion of the sage grouse/raptor seasonal restriction still valid?		
What action is the request for an exception for?		
Dates of the proposed exception?		
Criteria for Lek or Nesting Habitat/Location/Topography		**Comments**
Birds and type	present or absent	
Wintering Areas	yes, no	
Nest or lek location		
Topographical features		
Nest or Lek Active	yes, no, unknown	
Nest chronology of species		
Timing		**Comments**
Early or late in breeding/nesting season		
Kind of and length of disruptive activity		

RECOMMENDED ACTION: Based on the above analysis, I recommend the exception be:

Approved: _____ Denied: _____

_____ Date: _____
Wildlife Biologist

The exception is: Approved: _____ Denied: _____

_____ Date: _____
Authorized Officer

Criteria to Consider for Big Game Exceptions to Seasonal Restrictions

REQUESTER: _____ DATE OF REQUEST: _____		
PROJECT NAME: _____		
REQUESTED DATE(S) OF EXCEPTION: _____		
ACTIVITY PROPOSED: _____		
LAST DATE OF FIELD EXAM: _____ GIS/ARCVIEW MAP REVIEWED: YES NO		
General Considerations - Requests for Exceptions		
	Comments	
Are factors leading to inclusion of the wildlife restriction still valid?		
What action is the request for an exception for?		
Dates of the proposed exception?		
Criteria for Winter Ranges		**Comments**
Animal	present or absent	
Animal Condition	good, fair, poor	
Weather Severity		**Comments**
Snow Conditions	depth, crusting, longevity	
Weather patterns		
Wind chill factors (indication of animal energy use)		
Air temperatures/ variation		
Duration of condition		
Short and long range forecast		
Habitat Condition		**Comments**
Animal density	low or high	
Forage condition	good or poor	
Forage Availability	yes or no	
Competition with livestock or other wildlife		
Amount of forage - Has livestock use decreased forage		

General Considerations - Requests for Exceptions		
Habitat Condition		**Comments**
Suitable/ample forage available and accessible nearby	yes or no	
Site Location		**Comments**
Likelihood of animal habituating to activity	yes or no	
Presence of thermal, wind cover		
Proportion of winter range affected (ac or %)		
Where site is located within the winter range		
Other activity and effect on the animals		
Timing		**Comments**
Early or late in winter season		
Kind of and length of disruptive activity		
How much winter is remaining		

RECOMMENDED ACTION: Based on the above analysis, I recommend the exception be:

Approved: _____ Denied: _____

_____ Date: _____
Wildlife Biologist

The exception is: Approved: _____ Denied: _____

_____ Date: _____
Authorized Officer