

DEPARTMENT OF NATURAL
RESOURCES AND CONSERVATION
TRUST LAND MANAGEMENT DIVISION
NORTHEASTERN LAND OFFICE



DNRC - Trust Land Management Division

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August 9, 2004

MEMORANDUM

TO: Clive Rooney, NELO Area Manager
FROM: Hoyt Richards, GUO *HR*
RE: Seismic Permit 1433

RECEIVED

SEP 28 2004

LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE

Please review the Seismic EA that is attached.

Background: Grant Geophysical applied to perform a 3-d vibroseis seismic survey on lands that DNRC administers both the surface and subsurface ownership rights. My review found concerns with both the steep slopes and the leafy spurge found on the State lands. I addressed my concerns with Grant Geophysical; a second alternative was created in order to mitigate these concerns. The second alternative was to perform a shot hole survey on a portion of the lands. I recommend that the alternative to perform the survey using a combination of shot holes and vibroseis is selected. If you agree please sign and forward this EA to Wanda.

I recommend that the following stipulations be added to the permit:

1. To minimize vehicle traffic, the receiver lines shall be laid by walking or using a helicopter.
2. A post map showing shot hole locations and vibroseis locations must be approved by the Glasgow Unit Office prior to commencing of any work on the State land.
3. Shot hole techniques will be used on any area where slopes exceed 25%.
4. No driving uphill shall take place on slopes greater than 20%.
5. All gates will be left as found upon entering the State land.
6. The permittee shall spray Plateau herbicide at a rate of 8-10 ounces per acre using a minimum of 25 gallons of water per acre in any area where vehicles shall encounter leafy spurge. A path of 15 feet wide shall be sprayed. Vehicles shall not drive through any areas that have spurge present.
7. No activities shall take place within 300 feet of a water line or other type of water development.
8. No activities will take place prior to charging of all water lines.

9. It is the responsibility of the permittee to make sure that the seismic company, that has been contracted to do the seismic work under this permit, has a valid permit with the county and has registered their bond with the Secretary of State's Office.
10. Permittee shall contact surface lessee 48 hours prior to any seismic activity on State owned lands.
11. Seismic activity may occur on dry or frozen ground only. No activity will be allowed during muddy conditions.
12. No vehicle oil changes or petroleum disposal shall occur on the state land.
13. All trash shall be properly removed and disposed of.
14. There will be no off road traffic other than that necessary to accomplish the seismographic goals. Since a brick pattern is being used, the movement of the trucks will be in such a manner as to minimize the amount of impact to the land.

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: McCann 3-D Seismic Survey	Proposed Implementation Date: July 30, 2004
Proponent: Grant Geophysical Corp; Room 178, 601 S Central, Sidney MT 59270	
Type and Purpose of Action: The applicant proposes to conduct 3-D Seismic survey on State land in Roosevelt County under Seismic Project/Continental Resources Permit No. 1437-04.	
Location: S½ Sec. 4; E½SE¼ Sec. 8; S½SE¼ Sec. 10; All Sec. 16; N½NW¼, NW¼NE¼ Sec. 17; All in Township 27 North, Range 57 East.	County: Roosevelt

I. PROJECT DEVELOPMENT

<p>1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED: Provide a brief chronology of the scoping and ongoing involvement for this project.</p>	<p>Grant Geophysical Corp. contacted the Department of Natural Resources and Conservation, Minerals Management Bureau, Helena Office. Minerals Management Bureau contacted the Glasgow Unit Office to do the on site inspection and complete the Environmental Assessment process. Grant Geophysical has applied for a 3-D vibroseis seismic permit to conduct seismic operations on State land. Grant Geophysical Corp. has sent maps to the Glasgow Unit Office showing project location. The Minerals Management Bureau has contacted the surface lessee to explain project activity. Craig Biggart met with Bob Anderson, surface lessee on July, 19, 2004. Craig Biggart also met with Rick Scheetz, Solid State Geophysical Inc. on July xx, 2004. Hoyt Richards met with Rick Scheetz, Solid State Geophysical Inc. on July 30, 2004. Hoyt Richards met with Rich Scheetz and Maurice July 30, 2004 to discuss the noxious weeds on State lands.</p>
<p>2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:</p>	
<p>3. ALTERNATIVES CONSIDERED:</p>	<p>Action Alternative 1: Grant a seismic permit to the applicant to perform a vibroseis 3-D Seismic survey project on State land.</p> <p>Action Alternative 2: Grant a seismic permit to the applicant to perform a 3-D Seismic survey using a combination of shot hole and vibroseis techniques.</p> <p>No Action Alternative: Deny a seismic permit to the applicant to conduct a 3-D Seismic survey project on State land.</p>

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	POTENTIAL IMPACTS

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are fragile, compatible or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations?

Sec 4. This tract consist of 50 % Cabba-Cambert-Cherry Silt loams with 8 to 15 percent slopes. This range site is a combination of shallow to silty range site. Erosion is a problem with this range.

25%Farland-Cherry Silt loams with 2 to 8% slopes that range 200 to 600 feet long. This range is a silty range site.

25% Harlem silty clay loam with 0 to 2 percent slopes. This range is a clay range site.

Sec 8. This section is primarily Cabba-Cambert Rock outcrop complex 15 to 45% slopes. The slopes are mainly 50 to 400 feet long. This range is a shallow range site. This range has a high hazard for water erosion.

The drainages of this section are Cabba-Cambert-Cherry as described above in sec 4.

Sec 16. The majority of this section is -Cambert Rock outcrop complex as described in sec 8.

The drainages of this range are Badlands. These ranges have very steep knolls ridges and side slopes on the uplands. It is nearly barren and has numerous deeply entrenched intermittent drainages. The slopes range from 15% to 75% with a high hazard for water erosion.

Sec. 17. The majority of this section is Cambert Rock, badlands, and Cabba-Cambert-Cherry silt loams as described above.

Action Alternative 1: This type of project will alter the surface soils on the state land. Portions of this tract have steep topography (Badlands, Cambert Rock outcrop). Due to steepness of slopes, traversing of these slopes with vibroseis equipment will lead to erosion. This erosion, overtime will have impacts to this area. Vegetation, wildlife habitat and long term productivity of these lands may potentially be compromised by this activity. May

Action Alternative 2: This type of project will minimize the effects to the tracts of land. Sholt hole techniques could be used on slopes in excess of 20%. This will only require one tractor to traverse this area and the effects will be mitigated. Vibroseis techniques may be allowed on all lands with slopes less than 20%. This technique will not effect the erosion potential of these lands.

No Action Alternative: Under this type of action, no impacts would occur on the surface soils.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?

There is two water pipelines in place in Section 4 and Section 16. These pipelines add to the wildlife habitat and the grazing habitat for these tracts of land. The pipeline serves water tanks that are located on this project.

Action Alternative 1 & 2: The potential exist to disturb the pipelines and or water tanks located on these parcels. Mitigation, requiring the proponent to not perform these techniques within 300 feet of these pipelines and water sources, will mitigate potential damages. The techniques should not take place unless the water pipelines are charged. Charging of the lines will keep the lines from bouncing. This type of project on State land will not impact the water quality, quantity and distribution through the use of mitigation techniques.

No Action Alternative: Under this type of action, no

II. IMPACTS ON THE PHYSICAL ENVIRONMENT	
	impacts would occur on water quality, quantity and distribution.
6. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	<p>Action Alternative 1 and 2: This type of project on the State land will not have impacts to the air quality.</p> <p>No Action Alternative: Under this type of alternative there would be no impacts to air quality.</p>
7. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?	<p>This area is generally considered native rangeland with a wide variety of grass types (cool season and warm season) and native forbs. The draws of these range sites have significant leafy spurge populations contained within them.</p> <p>Action Alternative 1: The native vegetation within the project area will receive some disturbance. This vibroseis equipment will kill all shrubby vegetation that are disturbed. Over time the majority of this vegetation will come back. The draws are significantly invaded by leafy spurge. The constant travel of this large equipment through these infestations will spread the seeds of these noxious weeds. The setting back of the woody species will also allow the leafy spurge to further out compete the native species. Mitigation requiring the proponent to spray Plateau herbicide at a 8-10 ounce rate 3 days prior to traversing these areas will mitigate the potential spread of the noxious weeds.</p> <p>Action Alternative 2: The drilling of shot holes on all slopes greater than 20% will minimize the disturbance of woody vegetation, and on noxious weeds. Only one vehicle will be traveling through the area instead of five vehicles used in the vibroseis technique. Mitigation requiring the proponent to spray Plateau herbicide at a 8-10 ounce rate 3 days prior to traversing these areas will mitigate the potential spread of the noxious weeds.</p> <p>No Action Alternative: Under this alternative there would be no impacts to native vegetation.</p>
8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	<p>A search of the natural heritage database found The piping plover, Sicklefin Chub, Pallid Sturgeon, Sturgeon Chub, Blue Sucker, Paddlefish, and the Interior Least Tern. These species habitat are all centered on the aquatic environment around and in the Missouri River.</p> <p>Action Alternative: The state land contains habitat types for ungulate wildlife and upland birds. The project will be short term and there will be minimal impacts to the habitat types.</p> <p>No Action Alternative: Under this alternative there would be no impacts to the habitat types.</p>
9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Sensitive Species or Species of special concern?	<p>A search of the natural heritage database found The piping plover, Sicklefin Chub, Pallid Sturgeon, Sturgeon Chub, Blue Sucker, Paddlefish, and the Interior Least Tern. These species habitat are all centered on the aquatic environment around and in the Missouri River.</p> <p>Action Alternative: The area of impact contains no known unique, endangered, fragile or limited environmental resources.</p> <p>No Action Alternative: Under this alternative there would be no impacts to the State land environmental resources.</p>
10. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological	Survey of this area found large sites containing stone circles and rock cairns. These sites were observed on flat bench uplands. These areas have

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

<p>resources present?</p>	<p>slopes that are less than 25%.</p> <p>Action Alternative 1: This project will have minimal impacts on any archaeological sites in the area. The vibroseis trucks have large steel pads that rest on the ground and provide minimal disturbance to the surface. The potential exist for minor disturbance of features to take place through the large tires that are present.</p> <p>Action Alternative 2: The vibroseis disturbance are described under alternative 1. The shot hole techniques have the potential to disturb features. However, this techniques will only be used on slopes in excess of 25%. Cultural artifacts are generally found in this area on the flatter upland areas. Therefore the overall disturbance is alternative has the potential to damage potential</p> <p>No Action Alternative: No disturbance would take place.</p>
<p>11. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?</p>	<p>This area is remote and desolate. Large bluffs block views beyond approximately one mile in range.</p> <p>Action Alternative 1 & 2: This project will not impact the aesthetics of the state land.</p> <p>No Action Alternative: Under this alternative there would be no impacts on the State land.</p>
<p>12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?</p>	<p>Action Alternative 1 & 2: This project will place no demands on the environmental resources of land, water, air or energy.</p> <p>No Action Alternative: No additional demands on environmental resources of land, water, air or energy.</p>
<p>13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: Are there other studies, plans or projects on this tract?</p>	<p>Action Alternative 1 & 2: This project will not impact other studies, plans or projects that DNRC may have in place on the state land.</p> <p>No Action Alternative: This alternative would have no impacts to other environmental documents pertinent to the State land.</p>

III. IMPACTS ON THE HUMAN POPULATION

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
<p>14. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?</p>	<p>Action Alternative 1 & 2 : This project has minimal human health and safety risks. The employer and employee understand the risks as occupational hazards.</p> <p>No Action Alternative: This type of alternative will have no impacts to human health and safety.</p>
<p>15. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL</p>	<p>Action Alternative 1 & 2: The project will have</p>

<p>ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>minimal impacts to livestock grazing which is the current agricultural use on the State land.</p> <p>No Action Alternative: Under this type of alternative there would be no impacts to agriculture activities on the State land.</p>
<p>16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.</p>	<p>Action Alternative 1 & 2: This alternative has the potential to create work for 2one to three weeks for the people that would be directly involved in this project.</p> <p>No Action Alternative: Job security for employees of the Grant Geophysical Corp. will not be enhanced.</p>
<p>17. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?</p>	<p>Action Alternative 1 & 2 This project will not generate additional revenue by itself for the school trust fund. However, the data it provides has the potential to generate substantial revenue for the school trust fund by the addition of oil wells to the tracts of land.</p> <p>No Action Alternative: Under this type of alternative there will be no impacts to the local and state tax base and tax revenues.</p>
<p>18. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?</p>	<p>Action Alternative 1 & 2 : The project will place no demands for government services. Local traffic will increase temporarily.</p> <p>No Action Alternative: Under this alternative there will be no impacts for the demand for government services.</p>
<p>19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?</p>	<p>Action Alternative 1 & 2: The project will impact locally adopted environmental plans and goals. The noxious weeds present will add additional work load to the Roosevelt County Weed district through their attempts to control this weed. The weed district will need to closely work with the proponent in order to minimize the spread of this weed.</p> <p>No Action Alternative: Under this alternative there would be no impacts on locally adopted environmental plans and goals.</p>
<p>20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?</p>	<p>Action Alternative 1 & 2: The area of impact has recreational values such as hunting mule deer and upland birds. The project is short term and there will be no impacts to the recreational values associated with the State land.</p> <p>No Action Alternative: There would be no impacts to the recreational values associated with the State land.</p>
<p>21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?</p>	<p>Action Alternative 1 & 2: The project will not impact the density and distribution of population and housing.</p> <p>No Action Alternative : Under this alternative there would be no impacts to density and distribution of population and housing.</p>
<p>22. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles</p>	<p>Action Alternative 1 & 2: The project will not disrupt the traditional lifestyles of the local</p>

or communities possible?	community. No Action Alternative: Under this alternative there would be no disruption of native or traditional lifestyles of the local communities.
23. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	Action Alternative 1 & 2: The project will not impact the cultural uniqueness and diversity of the area. No action Alternative; Under this alternative there would be no impacts to the cultural uniqueness and diversity of the area.
24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	Action Alternative 1 & 2: The project may provide benefits to the local community through supplying petroleum, food products, lodging, etc., as well as other products to the seismograph company. No Action Alternative: Under this alternative there would be no impacts to the social and economic circumstance of the local communities.

EA Checklist Prepared By: R. Hoyt Richards Date: July 23, 2004
R. Hoyt Richards GUO Manager

IV. FINDING	
25. ALTERNATIVE SELECTED:	Action Alternative 2
26. SIGNIFICANCE OF POTENTIAL IMPACTS:	N.S.I.
27. Need for Further Environmental Analysis: <input type="checkbox"/> EIS <input type="checkbox"/> More Detailed EA <input checked="" type="checkbox"/> No Further Analysis	

EA Checklist Approved By: : Clive Rooney NELO Manager Date: July 23, 2004


Signature

Date:

8/10/4