

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: Saturn 3-D Seismograph Survey

Proposed Implementation Date: March 7, 2011

Proponent: St Croix Seismic, 5410 72 Circle N, Minneapolis Minnesota 55429

Type and Purpose of Action: St Croix Seismic proposes to conduct a 3-D seismograph survey on State land in Daniels County under Seismic Permit No. 1562. The seismic project will be conducted to determine the possible location of oil deposits in the underground Missouri and Bakken formations. There may be areas of slope or other possible sites that may require some shot hole activity, in order to acquire specific seismic information.

Location: Lots 3, 4, S2NW4, SW4, Sec. 2 Twp. 34N Rge. 47E, Lots 1, 2, S2NE4, S2, Sec. 3 Twp. 34N Rge. 47E, Lots 1, 2, 3, 4, S2N2, S2, Sec. 4 Twp. 34N Rge. 47E, Lots 1, 2, 3, 4, S2N2, SE4, Sec. 5 Twp. 34N Rge. 47E, Lots 1-7, SE4NW4, S2NE4, E2SE4, Sec. 6 Twp. 34N Rge. 47E, Lots 1, 2, 3, 4, SE4, E2SW4, Sec. 7 Twp. 34N Rge. 47E, N2NE4, SW4NE4, SW4, Sec. 8 Twp. 34N Rge. 47E, W2, E2NE4, Sec. 9 Twp. 34N Rge. 47E, NE4NE4, S2NE4, N2SE4, Sec. 10 Twp. 34N Rge. 47E, NW4, SE4, N2SW4, Sec. 11 Twp. 34N Rge. 47E, S2SE4, SW4, Sec. 12 Twp. 34N Rge. 47E, N2NW4, SW4NW4, E2, Sec. 13 Twp. 34N Rge. 47E, S2NW4, SW4NE4, Nw4SE4, N2SW4, Sec. 14 Twp. 34N Rge. 47E, NW4, SE4NE4, SE4, S2SW4, Sec. 15 Twp. 34N Rge. 47E, All, Sec. 16 Twp. 34N Rge. 47E, Lots 1, 2, E2NW4, Sec. 18 Twp. 34N Rge. 47E, E2W2, E2, Sec. 21 Twp. 34N Rge. 47E, N2NW4, NE4, SW4, Sec. 22 Twp. 34N Rge. 47E, S2NW4, S2, Sec. 23 Twp. 34N Rge. 47E, NW4, Sec. 24 Twp. 34N Rge. 47E, W2, Sec. 25 Twp. 34N Rge. 47E, N2, N2SW4, Sec. 26 Twp. 34N Rge. 47E, N2, N2SE4, Sec. 27 Twp. 34N Rge. 47E, N2, Sec. 28 Twp. 34N Rge. 47E, S2, Sec. 28 Twp. 35N Rge. 47E, SE4, Sec. 29 Twp. 35N Rge. 47E, SE4, Sec. 31 Twp. 35N Rge. 47E, SW4, Sec. 32 Twp. 35N Rge. 47E, W2, Sec. 33 Twp. 35N Rge. 47E

County: Daniels

I. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED: Provide a brief chronology of the scoping and ongoing involvement for this project.

St Croix Seismic 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. St Croix Seismic has applied for a seismograph permit to conduct 3D seismic operations on State land in Daniels County. St Croix Seismic has sent maps to the Glasgow Unit Office showing the project location. The Minerals Management Bureau has contacted the surface lessees to explain project activity. Glasgow Unit Office personnel have entered the negotiations for surface damage settlement for all State land involved with this project.

	Northeastern Land Office personnel conducted a public hearing in Scobey Montana to meet with all surface lessees, St Croix personnel and Farm Service Agency personnel. The public meeting allowed all lessees with State land to ask questions about the seismic project. Lessees were allowed to draw on a topographic map, areas of critical concern that may be impacted by the seismic operation. Areas of critical concern will be incorporated into the stipulations and be avoided by the seismic company.
2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:	The other agencies that would have jurisdiction for this type of project would be the Montana Board of Oil and Gas, Daniels County Commissioners, Montana Secretary of State, and United State Department of Agriculture, Farm Service Agency. There may be other government agencies that have jurisdiction for this project that the writer of this document is not aware of.
3. ALTERNATIVES CONSIDERED:	Action Alternative: Grant a seismic permit to St Croix Seismic to conduct a 3D seismograph operation on State land within Daniels County. No Action Alternative: Deny a seismic permit to St Croix Seismic to conduct a 3D seismograph operation on State land within Daniels County.

II. IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	POTENTIAL IMPACTS
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?	Action Alternative: This type of project will some miner impacts to the surface soils on the state land. The surface soils on the project area are silty, sandy and sandy loams. The seismic project will be conducted in cold winter time conditions. This type of condition should mitigate some soil compaction on the project site. These soil types will retain the same capabilities of producing native vegetation, tame grass vegetation and dryland agricultural crops upon completion of the seismic activities. 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?	Action Alternative: This type of project should not impact surface water resources. Areas of known surface water such as springs, reservoirs, wells, prairie potholes, drainages with undeveloped springs will be avoided by the seismograph company. The Department of Natural Resources and Conservation will give the seismograph company specific stipulations that will outline areas of critical environmental concern that will be avoided. No Action Alternative: Under this type of action, no impacts would occur on water quality, quantity and distribution.

II. IMPACTS ON THE PHYSICAL ENVIRONMENT	
<p>6. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?</p>	<p>Action Alternative: This type of project on the State land will have minimal impacts to the air quality associated with the State land. The heavy equipment involved with this project will cause some immediate vicinity air pollution from diesel engines. The air pollution will be short term.</p> <p>No Action Alternative: Under this type of alternative there would be no impacts to air quality.</p>
<p>7. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?</p>	<p>Action Alternative: The native vegetation and tame grass vegetation on the project area will not be destroyed with this type of activity. There will some minor compaction of the dormant standing grass plant community. There will be some impacts to the woody vegetative types associated with the native rangeland sites. The impacts to the woody vegetation should be minimal. The woody vegetation will recover from the seismic impacts over time. The dryland agriculture acreage contains no small grain crops, as the seismic project will be conducted in winter time conditions. There will only be minor soil compaction from the seismograph equipment with no long term impacts expected from this project.</p> <p>No Action Alternative: Under this alternative there would be no impacts to native vegetation.</p>
<p>8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?</p>	<p>Action Alternative: The state land contains habitat types for whitetail deer, mule deer, sharptail grouse, pheasant, Hungarian partridge, various types of avian birds, all types of waterfowl, predator species, etc. The project will be short term and there will be minimal impacts to the habitat types associated with these State lands. The seismic activity will be conducted during winter time conditions. This activity should have very minimal impacts to the wildlife, upland bird, and waterfowl habitat associated with these tracts of state land.</p> <p>No Action Alternative: Under this alternative there would be no impacts to the habitat types.</p>
<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>	<p>Action Alternative: Matt Poole, Land Use Specialist for the Glasgow Unit Office has conducted a survey with the use of the National Heritage Program web site. Matt's findings show that the National Heritage Program has listed the Brook Stickleback (<i>Culaea inconstans</i>) and Stickleback (<i>Gasterosteidae</i>) minnow as a species of concern. The area of impact contains no areas where surface perennial streams are found. Therefore these minnow species would not be found on the project area.</p> <p>No Action Alternative: Under this alternative there would be no impacts to the State land environmental resources.</p>
<p>10. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any</p>	<p>Action Alternative: Glasgow Unit Office</p>

II. IMPACTS ON THE PHYSICAL ENVIRONMENT	
historical, archaeological or paleontological resources present?	<p>personnel conducted a search of all State lands Field Evaluations on those tracts associated with this project. The Field Evaluation search showed no historical, archaeological or paleontological sites on the project area. If there are unidentified sites where shot hole activity occurs. It is possible that unidentified stone circles may seem some disturbance. In the document writers experienced opinion, disturbance will be minimal impacts to this type of historical or archaeological site.</p> <p>No Action Alternative: Under this alternative there would be no impacts to any unknown historical or archaeological sites on the State land.</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>Action Alternative: The aesthetics of the area are native rangelands, conservation reserve program acreage and dryland agriculture acreage. These types of natural resource aesthetics are found throughout northeastern Montana. The seismograph project will have no impacts to the aesthetics associated with these tracts of State land. The project will be visible by rural residents of Daniels County,</p> <p>No Action Alternative: Under this alternative there would be no impacts on the State land.</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>Action Alternative: This type of project on State land will place no demands on the environmental resources of land, water, air or energy. The seismograph project will be conducted during frozen winter time conditions. This winter time frame should not impact other activities in the vicinity of project.</p> <p>No Action Alternative: Under this alternative there would be no demands on environmental resources of land, water, air or energy.</p>
13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: Are there other studies, plans or projects on this tract?	<p>Action Alternative: This type of project on State land will not impact other studies, plans or projects that the Department of Natural Resources and Conservation may have in place on the state land. There is a very small chance that the United States Department of Agriculture, Natural Resources and Conservation Service may have some study areas located on State or deeded lands. The study areas will not be impacted by the seismograph operation being conducted in frozen winter time conditions.</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
14. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	Action Alternative: This type of project on State land has minimal human health and safety

	<p>risks. There may be some safety risks during the action phase of the seismic project. This should be mitigated by using trained professional employees with proper safety efforts on the part of the employer.</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 ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?</p>	<p>Action Alternative: The project will have minimal impacts to the current livestock grazing, conservation reserve program and dryland agriculture activities that are occurring on the State land. The seismic operation will occur during frozen winter time conditions. The winter time frame will mitigate the impacts to the agricultural activities that would be occurring during other times of the year. The soil compaction impacts are short term. The area of impact will continue to produce native vegetation, tame grass vegetation and dryland agriculture crops upon project completion.</p> <p>No Action Alternative: Under this type of alternative there would be no impacts to livestock grazing 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: The project will have no impacts on the quality and quantity and distribution of employment. The seismograph company has full time employees. These employees are specifically trained in the field of seismic operations in required functionality of equipment.</p> <p>No Action Alternative: Under this alternative there would be no impacts to quantity and distribution of employment.</p>
<p>17. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?</p>	<p>Action Alternative: The project will have no impacts on the local and state tax base and tax revenues. Surface damages will be paid by the seismograph company to the surface lessee and State of Montana.</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: The project will place no demands for government services. The seismograph operation will add additional vehicle and equipment to the county roads in and around the project site. The project is short term, lasting three to four weeks. The impacts to county roads will be minimal on this short term time frame.</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: The project will not impact locally adopted environmental plans and goals. Daniels County commissioners have been informed of the seismograph project. At the writing of this document, Daniels County commissioners have made no comments opposing this project.</p>

IV. FINDING	
25. ALTERNATIVE SELECTED:	Action Alternative: The action alternative was accepted to grant a seismic permit to St Croix Seismic to conduct a seismograph project on State land. This action alternative will increase the chances to find oil or gas deposits in new areas of Northeastern Montana. The project will also increase revenue for the State of Montana School Trust.
26. SIGNIFICANCE OF POTENTIAL IMPACTS:	The project will have minimal impacts to the State land, which consists of native rangeland, tame grass vegetation, and dryland agriculture natural resources. The winter time conditions will mitigate impacts that would occur during other times of the year.
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: R. Hoyt Richards GUO Manager
Name Title
/s/ 3/8/11 Date:
Signature