

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Andesite Seismic Survey
Proposed Implementation Date:	January - March 2016
Proponent:	Andesite Energy, LLC PO Box 955 Billings MT 59103
Location:	Section 16 – T34N-R57E (Common School Trust)
County:	Sheridan

I. TYPE AND PURPOSE OF ACTION

Andesite Energy, LLC (henceforth referred to as the proponent) has requested to conduct a 3D seismic survey on the state trust land listed above (who also has the mineral lease on Section 16). This project would utilize heavy vibration equipment and seismic detecting equipment for the purpose of oil and gas exploration.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

Andesite Energy, LLC has submitted the proper documentation to the State of Montana Department of Natural Resources and Conservation (DNRC) to request this project and holds the oil and gas lease for Section 16, T 34N-R57E.

State of Montana Department of Natural Resources and Conservation, Trust Land Management Division (DNRC-TLMD) – surface owner for NE¼ only of Section 16, T34N-R57E and mineral owner for all of Section 16. The DNRC Northeastern Land Office, Glasgow Unit staff have been notified of the project. Glasgow Unit Manager, Matt Poole, has visited this site in the past.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

None

3. ALTERNATIVES CONSIDERED:

No Action Alternative: The proposed seismic exploration project will not occur. Current non-motorized recreational use and grazing leasing would continue.

Action Alternative: Andesite Energy, LLC will have permission to conduct seismic exploration using vibroseis equipment for oil and gas in Section 16.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Section 16 of T34N-R57E contains two geologic formations. The east side of this section has the Tongue River Member of the Fort Union Formation of the Paleocene age, which can be 800 feet thick. The west side is Alluvium-colluvium of the Quaternary age, which includes deposits on alluvial sites and glacial channels.

Soil compositions in Section 16 consist of loam, clay loam, silty clay loam, silt loam and silt clay. Web Soil Survey indicates these soils have slight erosion hazards, low to moderate susceptibility to degradation, low resistance to soil compaction, fair to excellent vehicle trafficability during the dry season, and moderate to high restoration potential.

This seismic survey will take place while the ground is frozen during January, February or March 2016. Damages to soil surface by vibroseis equipment are expected to be minimal this time of year.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

A search on the Ground Water Information Center database found no sites documented in this section. A closed depressional wetland of approximately 115 acres exists in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ and the NW $\frac{1}{4}$ SW $\frac{1}{4}$. This wetland is located on privately owned surface and DNRC owned minerals. Andesite Energy, LLC is aware of this body of water and will work with the seismic crew to avoid the wetland.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Pollutants and particulates may be increased during the project as a result of exhaust from vehicles traveling along the seismic lines. After the completion of the project pollutant and particulate levels should return to normal.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Vegetative communities may be temporarily affected by this project. The use of heavy equipment has the potential to damage some areas of the plant community. This may come from the vegetation being compacted by heavy equipment. Damage to the plant community should be less at this time of year because most species are dormant.

In Section 16 the vibroseis equipment will cross agricultural land, grasslands with mixedgrass prairie and sand prairie, and wooded draws.

DNRC owns the surface in NE¼ of Section 16; 58 acres are grazing, 91 acres are agricultural land that has been cultivated, and 10 acres are roads and oil well pads. DNRC Glasgow Unit Manager, Matt Poole, has visited this site in the recent past for DNRC oil and gas leases as well as the agricultural and grazing lease. Mr. Poole states that the agricultural and grazing land should not be impacted in the long term if the seismic survey should be completed while the ground is frozen.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

There may be minimal disruption to wildlife in the area. The scale and length of the project (approximately one month for the entire project; approximately 2 days on Section 16) should not be enough to significantly disrupt wildlife species. Species in the area include antelope, whitetail deer, beaver, raccoon, ducks and other waterfowl, raptors and other birds, various rodents, rabbits, reptiles and others. Section 16 is not within the core or general sage grouse habitat area.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A search was conducted using the Montana Natural Heritage Program database to identify point observations of species of concern in the section of the proposed activity. Section 16 is included in a migratory path for whooping crane passing through Montana. There have been multiple observations of whooping cranes in the area; however, no sightings are documented in Section 16.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

A Class I (literature review) level review was conducted by the DNRC staff archaeologist, Patrick Renne. This entailed inspection of the DNRC's sites/site leads database, land use records, General Land Office maps, and control cards for potential *Antiquities* in the project area. That series of searches indicated that no paleontological resources have been identified, but a possible stone circle

site was noted during a past range appraisal (but not formally recorded) in the NE1/4 Section 16, T34N R57E. Because seismic work tends to have little if any impact to stone features when the ground is dry or frozen, the DNRC is not recommending any additional archaeological investigative work in order for the proposed seismic operation to proceed as planned.

DNRC Glasgow Unit Manager, Matt Poole, has been to this site previously and has found no other historical, archaeological, or paleontological resources.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Aesthetics will have very short-term impacts in the scope of this project. A variety of vehicles used for seismic surveys will be seen and heard in the area. The project will be short term (approximately one month) and the seismic crew will reclaim any sites that show disturbance. There should be no lasting effects on the landscape from this project.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

None

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

None.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

No human and health safety risks were identified as a result of the proposed project other than the typical occupational hazards that coincide with seismic survey operations.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

The proposed project is not expected to alter current or future industrial, commercial, and agricultural activities and production.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

The proposed project would not create, move, or eliminate jobs.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

No impact.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

No impact.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

No impact.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

No impact.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

No impact.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

No impact.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

No impact.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The Seismic Exploration Permit for Oil and Gas fee is waived since Andesite Energy, LLC (the applicant) is also the current mineral lessee. The existing grazing lease on the NE¼ of Section 16 T34N-R57E provides approximately \$2,901, and the existing oil and gas lease on the entire section provides \$960 in rental fees, in annual revenue from Section 16 that goes to Common Schools. If wells are drilled and oil is extracted from state land, the amount of royalties would benefit Common Schools.

EA Checklist Prepared By:	Name: Heidi Crum	Date: January 19, 2016
	Title: Mineral Resource Specialist	

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, I have selected the Action Alternative, to issue a new seismic permit. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area and generate revenue for the common school trust.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I conclude all identified potential impacts will be mitigated by utilizing the stipulations listed below and no significant impacts will occur as a result of implementing the selected alternative.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS
 More Detailed EA
 No Further Analysis

EA Checklist Approved By:	Name: Monte Mason	
	Title: MMB Bureau Chief	
Signature: /s/ Monte Mason		Date: January 19, 2016

