

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Geokinetics Central Montana Area #3a 3-D Seismic Permit #1584
Proposed Implementation Date:	October/November 2012
Proponent:	Geokinetics
Location:	<ul style="list-style-type: none">• SE¼ of Section 2, Township 10 North, Range 29 East (160 acres)• NE¼ of Section 11, Township 10 North, Range 29 East (160 acres)• N½ of Section 12, Township 10 North, Range 29 East (320 acres)• Lots 1 & 2, S½NE¼, SE¼ of Section 6, Township 10 North, Range 30 East (320.43 acres)• W½ of Section 8, Township 10 North, Range 30 East (320 acres)• N½N½, SW¼NE¼, of Section 18, Township 10 North, Range 30 East (200 acres)• SE¼NW¼, SW¼NE¼, W½SE¼, of Section 24, Township 11 North, Range 29 East (160 acres)• Section 25, Township 11 North, Range 29 East (690.68 acres)• Section 36, Township 11 North, Range 29 East (658.56 acres)
County:	All Tracts are Common School Trust Musselshell County

I. TYPE AND PURPOSE OF ACTION

The Proponent has applied to the DNRC for a Seismic Exploration Permit to conduct a 3-D seismic project on State lands listed above in Musselshell County. The acquisition of this subsurface data will aid in the search for oil and gas development by more accurately defining drill targets and potentially lessening the number of wildcat wells. Cirque Resources, LP is the current oil and gas lessee on seven of the parcels and Tommy Craighead is the oil and gas lessee on the remaining two parcels of Trust land. The proposed project would encompass approximately 2,989.67 surface acres of Trust land and would utilize Vibrosis units to acquire the data. Receiver lines would be aligned in a South-North direction every 660 feet and along these lines there would be receiver/geophone points stationed every 110 feet. Additionally, source lines would be placed in a Southwest-Northeast alignment across the project area and be spaced every 880 feet with source points every 123 feet. The source points for both lines would be offset to avoid any areas of rough terrain, wetlands or cultural sites. The lines will be laid by workers on foot and a data recording truck would record all information from the cables.

Surface impacts to the Trust land would result from the vibrating platform and the motorized vehicles on the ground. The project will be completed by laying line and geophones on both State and private lands at the same time with the entire project lasting approximately 3 weeks and would temporarily disturb the immediate area during that time. Rubber-tired motorized vehicles consisting of ATVs, pick-up trucks, vibrator vehicle, and a data recording truck would be used for all proposed activities, along with foot travel where possible for line location/relocation. Vehicles would be allowed to access the proposed route off of the existing roads provided the most direct, least erodible route is utilized.

II. PROJECT DEVELOPMENT

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

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

No formal public scoping was performed by the Southern Land Office (SLO) for this proposed project. The state grazing lessees, Tippy Butte Ranch, Inc. Kite Cattle and Hougan Land, Inc., were all contacted by Geokinetics and lessee settlements were obtained.

The proposed project area was inspected on 4 and 5 October 2012 by Jeff Bollman, SLO Area Planner and Gary Brandenburg, SLO Land Use Specialist.

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

None.

3. ALTERNATIVES CONSIDERED:

Proposed Alternative: Approve the issuance of a Seismic Permit #1584 to permit 3-D seismic work on approximately 2,989.67 surface acres of State Trust land in Musselshell County.

No Action Alternative: Deny the request by Geokinetics to issue Seismic Permit #1584.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT
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| <ul style="list-style-type: none">• <i>RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.</i>• <i>Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.</i>• <i>Enter "NONE" if no impacts are identified or the resource is not present.</i> |
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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.

The soils in the proposed project area vary from clay, shallow clay and pan pots to silty and saline overflow types in the creek bottoms. Some exposed ridges, outcrops and steep slopes exist and a stipulation will be put on the permit to prohibit vehicle travel on slopes that exceed 25%. All motorized vehicle use would be limited to existing roads and cross country by the most direct, least erodible route off of an existing road to place and retrieve the cables, and drive the vibrating vehicle and recording vehicle. Additionally, motorized vehicle use would occur only during dry or frozen soil conditions to minimize any soil erosion, compaction, and rutting. Any and all disturbed areas would be seeded with a native grass seed mix when soil conditions are appropriate. No significant impacts are anticipated by the granting of the Permit.

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.

North Willow Creek traverses through the project area generally flowing from north to south. The project layout generally avoids any creek crossings and a stipulation will be added that prohibits crossing of intermittent creeks when they are carrying water. There are stockwater reservoirs located in Section 36-11N-29E, Section 2-10N-29E and Section 6-10N-30E. A stipulation will be added that will require a 300 foot minimum separation from these existing dams. Based on these restrictions no significant adverse impacts to water quality, quantity or distribution are anticipated.

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.

No significant impact is expected to air quality, although there may be a minor temporary increase in particulate emission from machinery during the proposed seismic activities. No significant impacts are anticipated.

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.

This area is considered a sagebrush, mid to short prairie vegetation type and is dominated by western and bluebunch wheatgrass. The nature of the proposed activity will cause some vegetative disturbance due to the need to drive across areas which do not presently have established roads. However, all motorized vehicle use would be limited to existing roads and cross country travel would be by the most direct, least erodible route off of an existing road to place and retrieve the seismic cable, and drive the vibrating vehicle and recording vehicle. The immediate area where the vibrating weight platform is placed on the ground would cause some vegetative disturbance. All vehicles would be required to be washed, particularly the undercarriage, to assure removal of dirt and plant material and seeds prior to entering the tract. All motorized vehicle use would occur only during dry or frozen soil conditions to minimize soil erosion, compaction, and rutting. Additionally, if the work occurs during frozen conditions when the sagebrush is brittle, it could have a short term positive impact by increasing forage production in the upcoming season. Any and all disturbed areas would be seeded with a native grass seed mix when soil conditions are appropriate. A search of the Montana Natural Resource Information System (NRIS) database revealed no unique plants on this section and none were observed during the SLO field inspection. No significant impacts are expected.

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.

A variety of big game (mule deer and antelope), small mammals, raptors, songbirds, and grouse may traverse this area. Proposed project activities could temporarily disrupt wildlife movement and patterns. Due to the limited duration, area proposed for the project activities and the limitation that no activities would be allowed between March 1 and July 15, most nesting and calving activities should not be affected. No significant impacts to terrestrial, avian and aquatic life and habitats are expected to occur as a result of implementing the proposed alternative.

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 proposed project area search of the Montana Natural Heritage Program database identified six vertebrate animals that are listed as a species of concern or threatened species: Golden Eagle, Greater sage-grouse, Sage thrasher, Loggerhead shrike, Brewer's sparrow and Black-tailed Prairie Dog.

Golden eagles are known to exist in the general area around the proposed project area and have been observed west of the subject state land. The subject tracts do not have many trees or power poles that would be desirable for nesting but the parcels could be used for foraging. No significant impacts are anticipated.

Greater sage-grouse occupy the proposed project area. There was a lek identified on Section 8-10N-30E by Fish, Wildlife and Parks, however the state grazing lessee illegally broke this land without DNRC permission in order to eradicate a prairie dog town. The lessee has since reseeded the area to native grass. The Permit will not allow any activity on the Trust land between March 1 and July 15 so that there would be no potential to disrupt lekking and nesting activity that could take place on or near the proposed project area. No significant impacts are anticipated with the proposed date restrictions.

Sage thrashers have been observed approximately two miles southeast of the proposed project area and probably inhabit the proposed project area. The date restrictions will provide that there is no disruption to nesting and the activity is relatively short duration of three weeks. Due to the proposed date restrictions, no significant impacts are anticipated.

Loggerhead shrikes have been observed in the south of the project area and due to the relatively short duration of the project, minimal impacts are anticipated.

Brewer's sparrows have been observed approximately two miles east from the proposed project area and probably inhabit the proposed project area. The date restrictions will provide that there is no disruption to nesting and the activity is relatively short duration of three weeks. Due to the proposed date restrictions, no significant impacts are anticipated.

Black-tailed Prairie dogs have been observed in an existing prairie dog town near the west boundary of the proposed project. Also, there was a town in Section 8-10N-30E, however the state grazing lessee illegally broke this land without DNRC permission in an attempt to eradicate the prairie dog town. The lessee has since reseeded the area to native grass and there were signs of prairie dogs outside of the illegal break area. No significant impacts are anticipated.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

The DNRC Archaeologist typically does not anticipate impacts when this type of activity is proposed, provided it is limited to times when the ground is dry or frozen. Additionally, the SLO staff visited the tracts on 4 and 5 October 2012 and conducted a visual survey of the project area. No cultural significant features were noted in the proposed project area. However, the SLO staff did find lithic scatter and some potential tools, but nothing of significance. A stipulation will be added to the Permit that would require immediate notification of the DNRC if any archaeological, historic or paleontological resources are located during the proposed project activities. No significant adverse impacts are anticipated.

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.

The proposed project area is located in a sparsely populated area in northern Musselshell County with very few residences. Due to its location and the short duration of actual proposed project activities, aesthetics are not anticipated to be adversely affected.

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.

No significant impacts to environmental resources of land, water, air or energy are expected as a result of implementing the proposed alternative.

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.

There are no other known state environmental reviews taking place in the immediate area. Depending on the results of the geophysical data, there could be a request to drill on the state land and such a request would require a separate environmental review.

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 significant adverse impacts to human health and safety are expected to occur as a result of implementing the proposed alternative.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

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

No significant impacts to industrial, commercial and agricultural activities and production are expected to occur as a result of implementing the proposed alternative.

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 action will have no significant impact on the quantity and distribution of employment.

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.

The limited duration of the proposed action and the nature of the activity would not have any significant positive or negative impacts to the local or state tax base. However, the typical crew consists of 45-60 persons and when the SLO staff did their site inspections they noted that the survey crews were staying in Roundup and utilizing the local services such as hotels, restaurants, fuel and grocery.

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

The implementation of the proposed alternative will not generate any additional demands on services provided by Musselshell County.

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.

Implementation of the proposed alternative will not conflict with any locally adopted plans.

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.

The subject Trust lands has low to moderate recreational use potential. All of the parcels, with the exception of Sections 6 and 8 in T10N-30E, have legal public access from Ragged Point Road. The proposed action may have a short term impact on recreational use quality of the tracts, in particular the ones that abut Ragged Point Road. The project was applied for prior to hunting season, but extreme fire danger delayed survey work by Geokinetics and the site inspection by the Southern Land Office. It is possible that the project will cause some disruption to hunters desiring to use these parcels during rifle season, but no hunters were observed for bow season during the SLO inspection. Implementation of the proposed alternative will entail approval of an approximate three week project, but is not expected to have a significant long term impact on recreational and wilderness activities on the subject parcels.

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 significant adverse impacts to density and distribution of population and housing are expected to occur as a result of implementing the proposed alternative.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

There are no native, unique or traditional lifestyles or communities in the vicinity that would be impacted by the proposed alternative.

23. CULTURAL UNIQUENESS AND DIVERSITY:

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

The proposed alternative would not directly impact cultural uniqueness or diversity.

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 proposed action to issue a Seismic Exploration Permit would allow for the geophysical exploration of the Trust land and could potentially result in future revenue from oil and gas extraction.

EA Checklist Prepared By:	Name: Jeff Bollman	Date: 16 October 2012
	Title: Southern Land Office Area Planner	

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, the proposed alternative has been selected and it is recommended that Seismic Exploration Permit #1584 be issued with the stipulations listed below. The proposed alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area while also generating revenue for the common school trust.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The potential for significant impacts from the proposed action is minimal based on the type of action proposed, the relatively short duration of the testing, its location and the minimal surface disturbance. Additionally, there were no plant species of concern identified on the tract. The only animal species identified that is known to occupy one of the parcels is the Greater Sage Grouse and a stipulation will be attached that will prohibit activities during lekking and nesting seasons. The other animal species identified may traverse the parcel, but are not likely to occupy it. All identified potential impacts will be avoided or minimized by utilizing the mitigations listed below and no significant adverse impacts are expected to occur as a result of implementing the proposed alternative.

The mitigation measures that will be required by the issuance of the Permit include:

1. Proponent shall contact surface lessee and DNRC Southern Land Office at least 48 hours prior to any seismic activity on state Trust lands. The contact at the SLO is: Jeff Bollman, Area Planner, jbollman@mt.gov or 406-247-4404 (office) or 406-670-4642 (cell).
2. The Permittee shall be responsible for controlling any noxious weeds introduced by Permittee's activity on state Trust land and shall prevent or eradicate the spread of those noxious weeds onto land adjoining the subject Trust land.
3. All seismic activities are prohibited within 100 feet of any water features. Should any intermittent streams be carrying water during the proposed project, an alternative route at least 100 feet from the stream will be utilized.
4. All seismic activities are prohibited within 300 feet of any structures, wells, dams, springs or oil wells, abandoned or otherwise. Additionally, seismic activities are prohibited within 150 feet of pipelines.
5. All vehicle traffic must stay on established roads except when using most direct, least erodible routes and will not be allowed to traverse steep slopes greater than 25%.
6. Seismic activity may occur on dry or frozen ground only. No activity is allowed during wet or muddy conditions.
7. All vehicles and ATVs, particularly the undercarriage, must be power-washed prior to entering the tract to assure removal of dirt and plant material and seeds.
8. If any archaeological, historical or paleontological resources are located during the proposed activities, the Permittee shall mark the location and contact the Southern Land Office for immediate inspection. The DNRC reserves the right to restrict surface activity for the purpose of protecting significant cultural resources.
9. It is the responsibility of the Permittee to ensure the company that has been contracted to perform the seismic work under this permit has all required permits including, but not limited to, a valid permit with the county and has registered its bond with the Secretary of State's Office.
10. No vehicle oil changes or petroleum disposal shall occur on the State land.
11. All seismic vehicles will contain suitable fire extinguishers. No open burning is allowed on state land.
12. All gates will be left in the same position they are found and all fences that are taken down will be repaired promptly.
13. No project activities will be allowed between March 1 and July 15.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS
 More Detailed EA
 No Further Analysis

EA Checklist Approved By:	Name: Gary Brandenburg
	Title: Southern Land Office Land Use Specialist
Signature: /s/ Gary Brandenburg	
Date: 10-16-12	