CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	East Butte Lookout 3D
Proposed Implementation Date:	July 2022
Proponent:	Paragon Geophysical Services, Inc
Location:	Surface and Minerals T7N-R61E-Sec 19; E2SW; W2SE T7N-R61E-Sec 16; All T7N-R60E-Sec 24 T7N-R60E-Sec 36
County:	Fallon

I. TYPE AND PURPOSE OF ACTION

Paragon Geophysical Services, Inc. (Henceforth referred to as the proponent) has requested to conduct a seismic survey on the State Trust Lands mentioned above. This project would utilize heavy vibration equipment and seismic detecting equipment for the purpose of oil and gas exploration. The proposed survey is in the existing Cedar Creek-Powder River oil and gas field.

II. PROJECT DEVELOPMENT

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

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

The proponent has submitted the proper documentation for this project. The ELO staff has conducted a field review during the week of 6/6/22 – 6/9/22. The proponent has been in contact with the DNRC and the surface lessees to discuss potential impacts, surface lessee settlement of damage forms have been received.

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

Montana DNRC Conservation and Resource Development – Montana Sage Grouse Habitat Conservation
Montana Board of Oil and Gas Conservation

3. ALTERNATIVES CONSIDERED:

No Action Alternative: The proponent would not be authorized to conduct seismic on State Trust Lands.
Action Alternative: The proponent would be authorized to conduct the seismic survey on four parcels of State Trust Land.

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.

There are no unique or unusual geologic features present within the project site. Per the Montana Bureau of Mines and Geology the area is contains several geologic formations predominantly made up of sedimentary shales, sandstones, and alluvium.

Soil composition is varied throughout the project. Soil types include a mix of loams, sandy loams, clay loams, and clayey soils. Sandy soils are typically shallower profiled and found on slopes and hill tops. Loams are primarily grassland or converted to cropland on these sections. Clayey soils are primarily in select coulees and badlands sites, with some panspot areas as well. Wet clayey soils pose serious difficulties for the use and operation of vehicles and should be avoided until soils have completely dried out. Some soil disturbance may take place using heavy vibration equipment. Major disturbance(s) can be mitigated through the exclusion of heavy equipment on some areas of trust land in which the soils are excessively compactable or fragile. Heavy equipment will not be allowed into any wetland, sub irrigated sites, or rivers, streams, springs, reservoirs, ponds, hardwood thickets etc. in the project area. Equipment will also not be allowed in steeper topography or any area where the soil structure is fragile. Some soil compactions may take place in areas where heavy equipment will be operated but the overall effects would be negligible
Please see attached maps where areas should **not** be accessed for seismic exploration.

No Action Alternative: The current geology and soils in the project area would remain undisturbed, as they currently exist.

Action alternative: The proponent would be granted a seismic permit to collect seismic data through vibriosis and would disturb soils but leave geologic formations intact. Any wetlands or steep topography would be avoided when collecting data.

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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 of the Montana GWIC layer shows two stock water wells on Section 36 T7N R60E and section 16 T7N R61E. There are sections in the project area that contain ephemeral streams. An equipment buffer will be utilized around all surface and subsurface water sources and impoundments. All equipment will be kept out of rivers, wetlands, sub irrigated ground or any area where water quality, quantity or distribution could be affected.

No action alternative: The current ground and surface water in the area will not change in abundance or quality.

Action alternative: There is no anticipated long-term impacts to the quality of surface or ground water by implementing the action alternative.

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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.

Airborne pollutants and particulates would increase during the project.

No action alternative: No impacts expected.

Action alternative: The proponent would be granted a seismic permit to collect data through vibriosis and an increase of airborne pollutants and particulates during the project would occur.

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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.

Vegetation communities may be affected by this project but would return after the scope of the 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. There is no evidence of rare plants or cover types in the scope of the project. Vegetation varies by soil type in this area. Clayey and loam sites are dominated primarily by western wheat grass (*Agropyron smithii*), blue grama (*Bouteloua gracilis*), and Sandberg bluegrass (*Poa*

secunda), along with varying densities of big sagebrush (*Artemesia tridentata*). Common snowberry (*Symphoricarpos albus*) is common in some drainages on these sites. The sandy sites (primarily hillsides and hilltops) are dominated by western wheat grass (*Agropyron smithii*), needle-and-thread (*Stipa comata*), threadleaf sedge (*Carex filifolia*), and prairie junegrass (*Koeleria pyramidata*).

No action alternative: The current vegetation would remain unchanged.

Action alternative: Current vegetation would remain relatively unchanged with slight disturbances where the permitee is collecting data through vibriosis.

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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.

The project area provides habitat to a variety of wildlife species that includes deer, antelope, sage grouse, and other avian species. Small rodents, and other mammals including small to medium sized predator such as foxes and coyotes could be found in the project site. There could be minimal disruption to the wildlife that inhabit the area. The scale and length of the project should not be enough to permanently disrupt the wildlife species. Native range grasses are abundant in the area and can be utilized by animals that could be temporarily displaced.

No action alternative: The project area would remain undisturbed, vegetation and habitat for the species in the project vicinity would remain relatively unchanged.

Action alternative: The proponent would be granted a permission to collect seismic data through vibriosis. The scope of the project could have the potential to decrease vegetation and habitat for the species listed above. However, the scope of the project's area and length of time is not expected to permanently disrupt wildlife in the area.

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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 through the environmental analysis layers using ArcGIS Pro noted one species of concern, Baird's Sparrow. Montana populations were declining until recently. As mentioned above the project does occur in Sage Grouse habitat and the proponent has consulted the Montana Sage Grouse Habitat Conservation Program.

No action alternative: The project area would not be disturbed, and species of concern would see no change.

Action alternative: If the action alternative is selected the proponent would be granted a permit to collect data through vibriosis. Impacts to the Baird's Sparrow are expected to be negligible and the Montana Sage Grouse Habitat Conservation Program was consulted for the impacts created by the project to Sage Grouse.

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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 for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that the East Lookout Butte Oil Field (24FA892) and a minimal lithic scatter (24FA846) are within the areas of potential effect.

Considering the non-disturbing nature of the proposed project, seismic work is expected to have *No Effect* to *Antiquities* as defined in the Montana State Antiquities Act. No additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or

paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

No action alternative: No impacts.

Action alternative: No impacts.

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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.

Impacts to aesthetics would be minimal during the project. There would be an increase of vehicles and people within the project area.

No action alternative: Aesthetics would remain in their current state.

Action alternative: The project area would be surveyed using vibriosis, aesthetics would remain in their current state with minimal lasting effects on the landscape. The project duration would be short, and landscape would recover once complete. Slight increases in noise and dust may occur during the duration of the project.

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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 action alternative: There would be no change to demands on environmental resources.

Action alternative: The action alternative is not anticipated to demands on environmental resources.

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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.

- Sage Grouse Consultation

The ag and grazing leases listed below were contacted by DNRC and the proponent, obtained signed damage settlement notices. The permittee and surface lessee's have agreed to additional terms and conditions if any fences, cattleguards, fixtures, pipelines, or improvements are damaged during operation an estimate of the cost to repair such damage will be submitted to the operator.
Due to current dry conditions in the project area vibrator buggies could cause soil compaction which could result in a loss of pasture and hay ground. Any damages to tracts of land will result in reimbursement that result(s) in loss.

- Grazing lease 5045 damage settlement
- Grazing lease 10921 damage settlement
- Ag and grazing lease 5043

The oil and gas lease listed below were contacted by the proponent and consent was given to explore the minerals on this tract of Trust Land.

- Oil and gas lease OG-43747-19

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 because of the proposed project, other than the typical occupational hazards that coincide with seismic activities.

No action alternative: No impacts.

Action Alternative: There may be potential safety risks for laborers, but the potential risk can be minimized with proper safety efforts.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

The proposed project could provide a needed resource for future petroleum products.

No action alternative: No Impact.

Action alternative: The action alternative has potential to provide an essential resource to 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.

No action alternative: Negligible effect.

Action alternative: Negligible effect.

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 action alternative: No Impact.

Action alternative: No Impacts expected.

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 action alternative: No Impact.

Action alternative: No Impacts expected.

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.

There are no known zoning or management plans in the project area.

No action alternative: No Impact.

Action alternative: No Impacts expected.

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 action alternative: No Impact.

Action alternative: No Impacts expected.

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 action alternative: No Impact.

Action alternative: No Impacts expected.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

No action alternative: No Impact.

Action alternative: No Impacts expected.

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

No action alternative: No Impact.

Action alternative: No Impacts expected.

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.

No action alternative: Currently the project area is being utilized for agriculture and grazing activities and oil and gas activities. The no action alternative could limit future exploration drilling for oil and gas resources on Trust Lands.

Action alternative: The applicant would pay a nominal application fee along with a mileage fee on lands in which they are not the lessee on record. The return to the Trust from granting a seismic permit is minimal. However, by utilizing the results of the activity, oil and gas companies can gain a further understanding of the resource in the area. This could help in future exploration efforts and could ultimately create significant revenue for the trust in the form of oil and gas royalties.

EA Checklist Prepared By:	Name: Thomas Palin	Date: 6/20/2022
	Title: Mineral Resource Specialist	

V. FINDING

25. ALTERNATIVE SELECTED:

By constructing this Environmental Assessment, the Department has identified impacts to the environment based on two potential alternatives. The Department has selected the action alternative and will authorize Paragon Services, Inc. to conduct a seismic survey of the submitted project area. The Department believes 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. The action alternative is also consistent with the mission of the Montana State Trust Lands Management Division.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I conclude identified impacts will be mitigated by utilizing the stipulation listed below and no irreparable impacts to the environment will occur because of implementing the selected alternative.

1. Equipment will remain 100 feet from all wetlands or sub-irrigated sites that maybe present.
2. Equipment will refrain from crossing overly steep terrain in which the fragile soil structure could be damaged.
3. No equipment operation shall occur in wet or muddy conditions.
4. Heavy equipment shall refrain from vibrating within 300 feet of all water sources, (including wells, springs, reservoirs, pits, pipelines, and stock tanks).
5. No equipment shall enter hardwood bottom sites and shall make every effort not to disturb the tree and shrub communities on state land.
6. Any fences or improvements taken down or removed shall be rebuilt or replaced immediately after completion of work within that section.
7. Creek crossings shall be kept to an absolute minimum utilizing as few existing crossings as possible.
8. All equipment must be pressure washed before entering state land and washed on a regular basis to prevent the spread of noxious weeds.
9. Should unacceptable disturbance of the vegetation community take place the proponent shall be required to repair and reseed the affected area with a native seed mixture established by the Eastern Land Office staff.
10. No motorized traffic of any kind on topography steeper than 15 %
11. All vibraphone lines must be hand laid and picked up.
12. No state timber resources may be damaged or removed without prior approval from the Eastern Land Office
13. Proponent is responsible for all fire suppression related costs from any fires that may result from permitted activities.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

EA Checklist Approved By:	Name: Zack Winfield	
	Title: Petroleum Engineer	
Signature: Zack Winfield		Date: 6/20/22